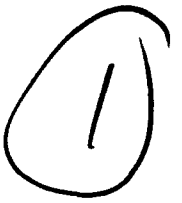
AD-A239 363



# DEVISING AND ATTAINING NATIONAL HEALTH OBJECTIVES

## A Case Study in Policy Formulation using asthma targets in Healthy People 2000

DTIC
ELECTE
AUG 0 9 1991
S D
D

by

Elizabeth P. Whitney-Teeple
B.S., Regents College
M.H.S.A., The George Washington University

A dissertation proposal submitted to the Faculty of the
School of Business and Public Management
of the George Washington University
in partial satisfaction of the
requirements for the degree
of Doctor of Philosophy

This document has been approved for public release and sale; its distribution is unlimited.

6 May 1991

Dissertation proposal directed

by

Dr. Richard F. Southby
Dr. Bryan Luce
Dr. Kathy Newcomer
Dr. Kevin Weiss

91

91-07320

# REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

| 1. AGENCY USE ONLY (Leave blank) | 2. REPORT DATE | 3. REPORT TYPE AND DATES COVERED |
|---|---|---|
| | 6 May 91 | THESIS/DISSERTATION |

**4. TITLE AND SUBTITLE**
Devising And Attaining National Health Objectives: A Case Study in Policy Formulation Using Asthma Targets in healthy People 2000

**5. FUNDING NUMBERS**

**6. AUTHOR(S)**
Elizabeth P. Whitney-Teeple, Captain

**7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)**
AFIT Student Attending: George Washington University

**8. PERFORMING ORGANIZATION REPORT NUMBER**
AFIT/CI/CIA- 91-006D

**9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)**
AFIT/CI
Wright-Patterson AFB OH 45433-6583

**10. SPONSORING/MONITORING AGENCY REPORT NUMBER**

**11. SUPPLEMENTARY NOTES**

**12a. DISTRIBUTION/AVAILABILITY STATEMENT**
Approved for Public Release IAW 190-1
Distributed Unlimited
ERNEST A. HAYGOOD, 1st Lt, USAF
Executive Officer

**12b. DISTRIBUTION CODE**

**13. ABSTRACT** *(Maximum 200 words)*

| 14. SUBJECT TERMS | 15. NUMBER OF PAGES | 16. PRICE CODE |
|---|---|---|
| | 78 | |

| 17. SECURITY CLASSIFICATION OF REPORT | 18. SECURITY CLASSIFICATION OF THIS PAGE | 19. SECURITY CLASSIFICATION OF ABSTRACT | 20. LIMITATION OF ABSTRACT |
|---|---|---|---|
| | | | |

TABLE OF CONTENTS





Accesion For
NTIS CRA&I
DTIC TAB
Unannounced
Justification
By
Distribution /
Availability Codes
Dist | Avail and / or Special
A-1

# LIST OF FIGURES

FIGURE

## LIST OF TABLES

TABLE

# CHAPTER I

## INTRODUCTION

Devising policies for the nation's health is the context for the research proposed in the following pages. A specific document, Healthy People 2000: National Health Promotion and Disease Prevention Objectives, is chosen as exploratory terrain for a case study of the policy formulation process. In particular, objectives new to the Year 2000 agenda, i.e. those that target asthma prevention and control, will be the focus of attention.

This introductory chapter will discuss the background of the case context and the conceptual framework for research. The research questions to be explored are presented.

### Research Domain

Asthma effects approximately eleven million Americans, causing work and school days to be lost, millions of outpatient visits, and thousands of hospitalizations annually (Weinstein, 1987). In 1989, asthma-related costs exceeded $6 billion (Weiss et al 1990). In an era when chronic diseases are increasingly manageable and the mode of treatment for asthma well recognized, mortality and morbidity from this disease are rising (Buist and Vollmer, 1990). The burden of illness falls disproportionately on lower socioeconomic groups and minorities (Gergen and Weiss, 1990). As an example, the death rate in blacks is three times higher than in whites (Centers for Disease Control, 1990).

Prevention and control of asthma is one of the many conditions addressed in the document Healthy People 2000: National Health Promotion and Disease Prevention Objectives (HP2000) (United States Public Health Service, 1990). Under the auspices of the Department of Health and Human Services as the lead federal agency, the development of this "national strategy for significantly improving the health of the Nation" (U.S. Public Health Service, 1990, p. iii) was

a massive effort involving more than 10,000 people over a three year period. Twenty-two priority areas with quantified goals are included in the final document.

The process of developing health objectives for the nation has at least a century of history (Dahl, 1991). The objectives developed by the U.S. Public Health Service in 1980 for 1990 contained no reference to asthma as a specifically targeted disease (U.S.Public Health Service, 1980). Asthma's appearance on the Year 2000 agenda represents an opportunity to pose questions regarding the process by which problems are included, categories defined, targets chosen, and the nature of the process itself.

The intersection of these two domains - (1)asthma prevention and control and (2)the setting of national health objectives - forms the space for the research proposed here (Figure 1). The three primary research questions and subsidiary questions to be addressed are:

**Primary Research Questions**

**RQ1. HOW WERE ASTHMA-SPECIFIC OBJECTIVES FORMULATED?**

**RQ2. IN THE OPINION OF KEY STAKEHOLDERS, WHAT ACTIVITIES ARE REQUIRED TO ATTAIN OBJECTIVE 11.1*?**
***REDUCTION OF ASTHMA HOSPITALIZATIONS**

**RQ3. HOW DID THE PROCESS OF POLICY FORMULATION SHAPE THE DISCOURSE WITHIN THE COMMUNITY OF HEALTH POLICY ACTORS?**

**Subsidiary Research Questions**

RQ1: Who was involved? How were the categories for the objectives chosen? How were specific targets agreed upon? With what theoretical model, if any, was the formulation of the objectives consistent?

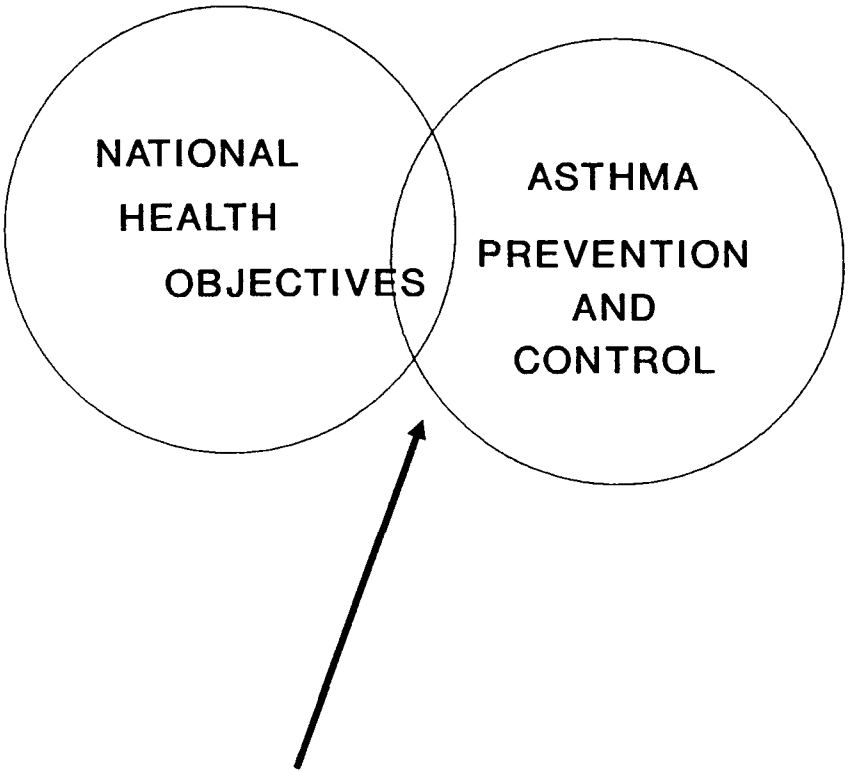

NATIONAL
HEALTH
OBJECTIVES
ASTHMA
PREVENTION
AND
CONTROL
RESEARCH DOMAIN

Figure 1.

RQ2: What activities are in place that will impact achievement of objective? How important are these activities? What activities are planned for the future? What barriers are there to realizing the objective? How are activities coordinated and/or interdependent?

RQ3: Did the policy formulation process encourage stakeholder interaction? How does the objective that was set as a result of the policy formulation process effect asthma prevention and control? Did the process raise awareness of asthma prevention and control? Was the establishing of the objective a gain for asthma prevention and control? How does the bounding and categorization of the objectives impact on asthma-related activities?

The first research question will use as a case study the three objectives in HP2000 that specifically target asthma-related problems, and examine the process of policy formulation through historical analysis techniques, including archival document research and interviews with participants. These particular objectives were selected as a case study target for several reasons. Asthma represents a prototypical chronic disease problem, but the concerns that relate to asthma are ubiquitous across the health care system and across disease categories. Equally important for this research is asthma's appearance as an objective on the Year 2000 agenda, contrary to its absence in the preceding document. These combined circumstances qualify these objectives as material for case study in accordance with Yin's criteria for an exemplary case study:

- the individual case or cases are unusual and of general public interest;
- the underlying issues are nationally important - either in theoretical terms or in policy or practical terms; or
- both of the preceding (Yin, 1984, p. 140)

Initial investigation of the Healthy People 2000 development indicates that prodigious efforts were made to avoid an isolated, uninformed process. The multiple task groups and comments used to form the specific objectives demonstrate an inclusive development suggesting

a complex theoretical policy model. Research Question 1 will explore this policy formulation process against two well documented models and a third alternative paradigm based specifically on work by Deborah Stone (Stone, 1988; Stone, 1989) and Sylvia Tesh (Tesh, 1988).

The second part of the research addresses the practical aspects of the policy formulation process by exploring the pathways and barriers to achieving one specific asthma-related objective. This objective is found in Healthy People 2000 under the category of Environmental Health, and reads as follows:

> Objective 11.1
> Reduce asthma morbidity, as measured by a reduction in asthma hospitalizations to no more than 160 per 100,000 people
> (Baseline: 188 per 100,000 in 1987)
> Special Population Targets
> Blacks 1987 baseline - 334 2000 Target - 265
> Children 1987 baseline - 284* 2000 Target - 225
> *aged 14 or younger

This objective will serve as a specific case study in the implementation challenges that confront the organizations responsible for achieving the stated Year 2000 target. Through archival data and interviews with knowledgeable individuals who represent organizations contributing to asthma prevention and control, the mechanisms for realizing this objective will be investigated.

Finally, by including questions that address both participants' and non-participants' subjective impressions of the objective setting process, knowledge can be gained about how the discourse surrounding asthma prevention and control was shaped by policy formulation developed in this manner. This area of the research may also provide insight into the validity of an alternative model of the policy process.

## Background

**Healthy People 2000.** The prevention and control of disease and disability in the population of the United States has long been the subject of much discussion, legislation, and expenditure of public and private funds. American medicine is seen by some as the best in the world, but health status indicators do not always support this assertion. An infant mortality rate higher than many less developed nations and thirty-seven million Americans with no health care insurance are but two examples of the less than perfect health care system in the United States (Sorian, 1988; Califono, 1986; Fein, 1989).

Resource allocation has become a matter of increasing interest as well. While the overall cost of health care, $620 billion in 1989 (Ginzberg, 1990), is not necessarily problematic in itself, the proliferation of procedures of unknown effectiveness combined with the competition for public resources, make health care expenses a major issue.

The federal government has been criticized for a lack of overall planning and coordination of a forward-looking health policy by government officials, economists, and physicians among others (Lamm, 1988; Thurow, 1985; Hiatt, 1987). The task of health planning, policy, and health care delivery is fragmented across agencies, organizations and the public and private sectors. The Public Health Service (PHS) is one focal point for devising a comprehensive health strategy. From its genesis in a 1798 law that provided for a Marine Hospital Fund, the Public Health Service has survived repeated bruising by Congress and the Executive Branch to become responsible for "clinical care, disease surveillance, and biomedical research throughout the country and the world" (Mullan, 1989. p. 7).

Healthy People 2000 is a product of the Public Health Service and its parent agency, the Department of Health and Human Services, working together with the Institute of Medicine to manage the development process. The document's historical development can be traced through periodic assessments of the health status of the American people. A Report of a General Plan for the Promotion of Public and Personal Health, presented by Lemuel Shattuck to the Massachusetts Legislature in 1850 (Shattuck et al 1986), is among the earliest efforts. In 1979 the Surgeon General of the PHS issued Healthy People (U.S.Public Health Service, 1979), which became the agenda-setter for the subsequent Promoting Health/Preventing Disease: Objectives for the Nation, released in 1980 and establishing targets to be reached by 1990 (U.S.Public Health Service, 1980).

Healthy People 2000 builds on these earlier efforts. Beginning in 1987, a consortium met to inaugurate the process of framing critical health issues and establishing targets for disease prevention and health promotion. This Consortium grew to include over 300 organizations and all state health departments. Meetings and hearings were held and public comment on the initial objectives was invited on over 13,000 draft copies sent out for review. Over 10,000 people were eventually involved in the policy formulation process. Though Healthy People 2000 did not originate in legislation, the document has become a reference for Congress as other bills and proposals are promoted. Senate Bill 2056, The Health Objectives 2000 Act was designed specifically to "provide grants...to implement...health objectives" in accordance with Healthy People 2000 (United States Senate, 1990, p. S16312).

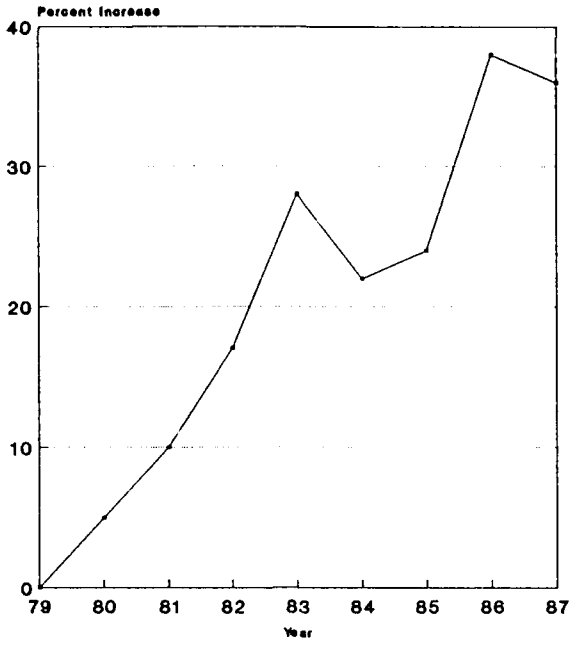
**Prevention and Control of Asthma.** Asthma is a chronic illness that causes hyperresponsiveness of the airways. Millions of Americans of all ages suffer the disabling effects

of the disease. Figure 2 displays data from the National Heart, Lung and Blood Institute (National Heart, 1989) and from a recent study of asthma costs (Weiss et al 1991) and indicates the burden of illness asthma imposes. Efforts to prevent and control asthma provide an excellent microcosm for investigating health policy formulation and the implementation challenges of those policies. The three particular issues that emerge in a review of asthma-related literature are representative of the spectrum of health care issues in the United States.

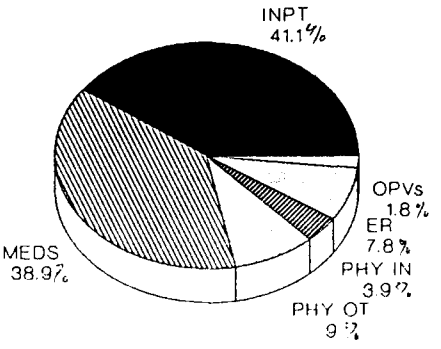
First, the direct costs of asthma are substantial. Hospitalizations increased by six percent between 1980 and 1987, most dramatically in children (Centers for Disease Control, 1990). The 160,200 hospitalizations of children in 1985 cost over $250 million (Weiss et al 1990). Anti-asthma medication prescriptions have increased more than 200% between 1972 and 1985, while prescription drugs overall increased only 7% during the same time period (Buist, 1989). The cost of the most commonly prescribed asthma medications in 1985 was $905 million (Weiss et al 1990). There were 15 million outpatient visits in 1988, thirty-five percent of which were by patients under 20 years old (National Heart, 1989).

Second, despite improved understanding of the disease process and better modes of treatment, carefully controlled studies indicate that morbidity and mortality of asthma are increasing (Buist and Vollmer, 1990). The implications of data collected between 1973 and 1988 are that asthma in children has risen over 118% during this time period (Mitchell and Anderson, 1990). These data and their limitations are addressed in Chapter II.

## Trends in Asthma Prevalence
### Percent Increase Since 1979




## Estimated 1990 Direct Costs
### For Asthma Care




Total=$3.79 billion

Deaths from asthma remain a rare event. Over four thousand people died of asthma in 1987, but this number was 31% higher than the number of deaths (2,891) in 1980 (Centers for Disease Control, 1990). Though there is a possibility that the severity of the disease is increasing, studies to date point to problems in the diagnosis and treatment of the disease as the more probable cause (Fabbri and Saetta, 1989; Hargreave et al 1990; Buist, 1989).

Unexplained fluctuations in asthma morbidity and mortality are not limited to the United States. Studies have shown similar changes in England, New Zealand, Australia, and France (Benatar, 1986; Burney et al, 1990; Fabbri and Saetta, 1989).

Finally, there is the issue of equity of the disease burden of asthma. The mortality rate is three times higher in nonwhites than in whites (Centers for Disease Control, 1990). Hospitalizations rose 3.7% per year between 1979 and 1987 in whites, but they rose 6.8% in blacks during the same time period (Gergen et al 1988). In certain geographic locations, hospitalizations vary by as high as a factor of 15, with a causal link to race/ethnicity and poverty. Socioeconomic circumstances appear to be a predictor of disease severity (Weiss, 1990a).

**Intersection of two domains.** Specific objectives are stated in Healthy People 2000 that relate to the prevention and control of asthma. While asthma has been recognized as a chronic disabler for centuries (Muntner, 1963), any mention of asthma as a particular national concern is absent from the earlier health objectives (U.S.Public Health Service, 1980). As noted above, Healthy People 2000 was developed by multiple parties with widely divergent interests. How did these participants choose asthma as a target? Did asthma-related problems rise above some previously set threshold of severity or were the data associated with asthma seen as a quantified opportunity to achieve broader interests? How did the reduction of asthma morbidity come to

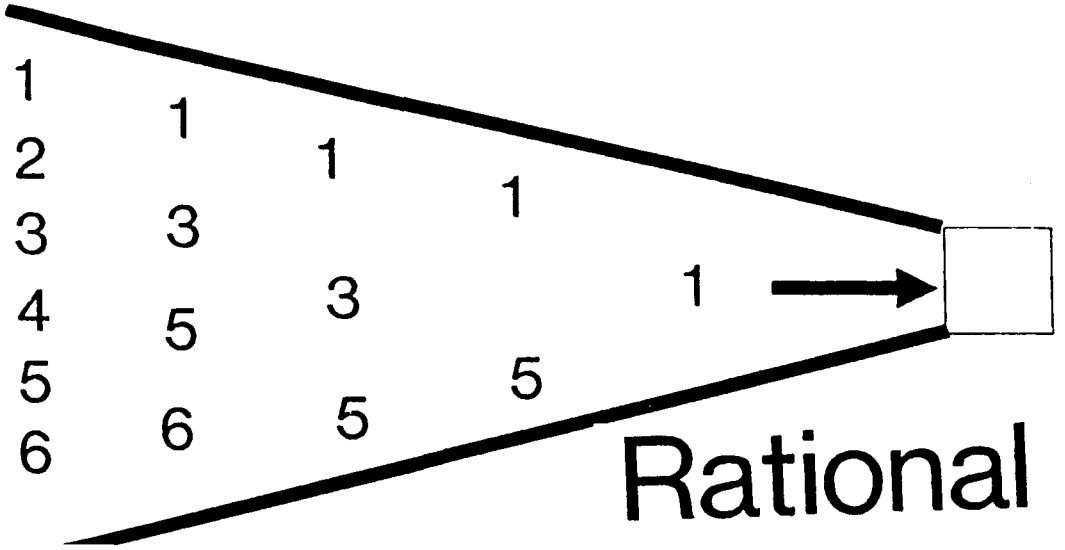
be placed under a heading of Environmental Health while more general asthma-related objectives are included under another category labeled Chronic Disabling Conditions?

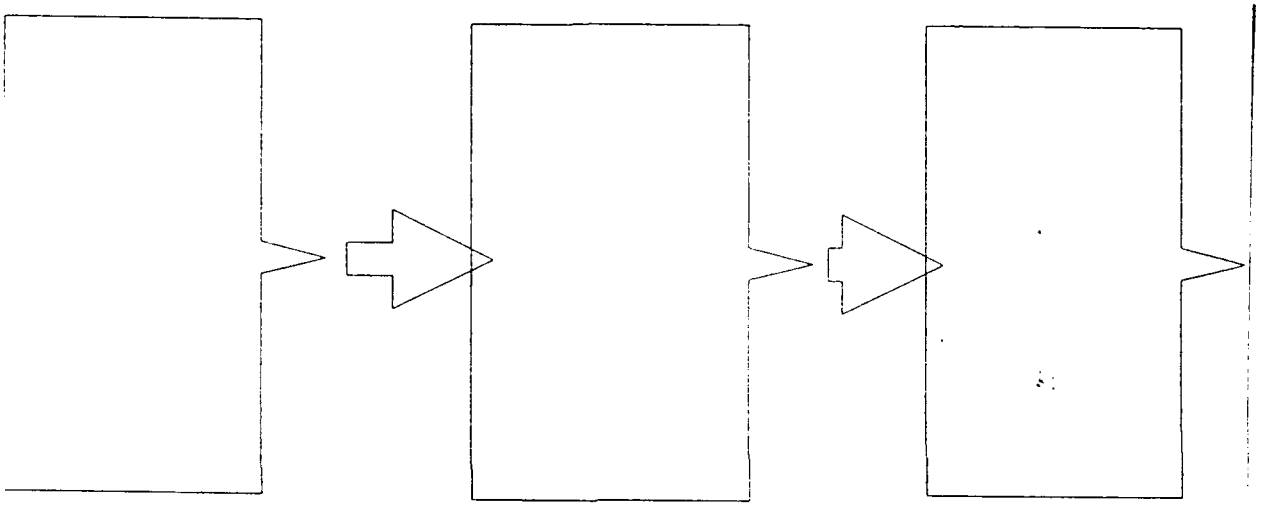
## Conceptual Framework for Research

A model is a "simplified representation of the complexities of the world around us" (Rose, 1978, page 15). Theoretical policy models have been developed to both explain the way policy is formulated and to guide policy analysis. Though collapsing the diverse literature on policy formulation into categories is admittedly reductionistic, two policy formulation models will provide the counterpoint to a third proposed here. These two models are referred to here as the Rational and the Incremental models. The third model, the Reflexive model, extends the conceptual framework of policy formulation to a more contextual logic and is designed to capture the "extra-rational" characteristics that exist within the "construction of policy issues" (Stone, 1988, p. 9). This model accentuates the community of interests in which actors adjust their definition of the issues and solutions in relation to each other. A label of "reflexive" indicates that "change precipitates further changes both in the situation and in the participants' views" (Soros, 1987, p. 42). The three models are interpretatively illustrated in Figure 3.

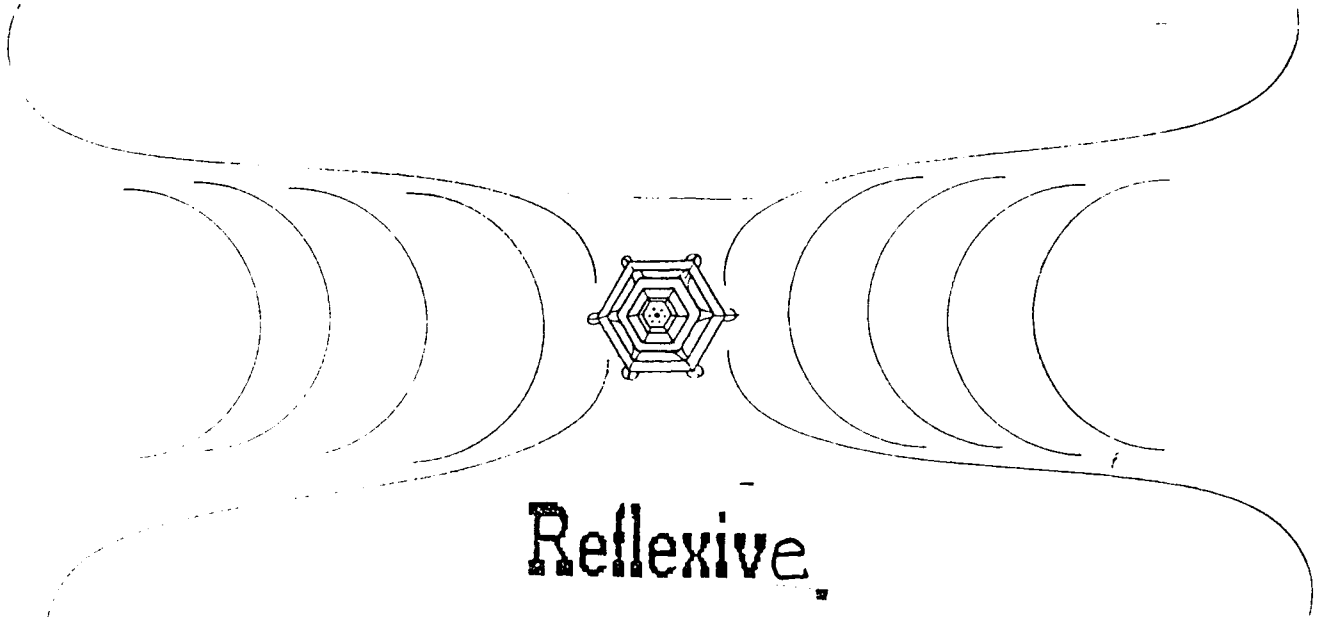
## Anticipated Contribution of this Study

The research proposed here is designed to make substantive contributions to knowledge in two areas, one theoretical and one practical. The theoretical contribution lies in the conceptualization of an alternative policy formulation model and a illustrative case study operationalizing this model against a theoretical background.



Incremental



Reflexive

The practical significance of this study addresses the question of how "attainable" relevant actors view one particular objective as actually being. These actors have the means and burden of effecting asthma prevention and control. Consistent with an action theory approach used in organizational management, exploring the pathways and barriers seen by the various players should inform the decision-making process and facilitate cross-discipline communication (Catron and Harmon, 1981).

A major assumption of this study of asthma-related issues and innovations is that there is value in anticipating the future and facilitating communications among the stakeholders of that future. Kenneth Boulding, concerned particularly with the interaction of social issues and economics, sees a special role for systematic endeavors that seek to engage the research participants in conversation. He says:

> One wonders sometimes if science will not grind to a stop in an assemblage of walled-in hermits, each mumbling to himself words in a private language that only he can understand...The more science breaks into sub-groups, and the less communication is possible among the disciplines,...the greater chance there is that the total growth of knowledge is being slowed down by the loss of relevant communications. The spread of specialized deafness means that someone who ought to know something that someone else knows isn't able to find it out for lack of generalized ears. (Boulding, 1968)

Specifically, if this research demonstrates that the development of the objective omitted important considerations and resulted in an unrealistic target, theoretical questions will be raised regarding the value of the process of policy development outside of setting attainable targets. Furthermore, practical implications of the specific inadequacies in preventing and controlling asthma may be apparent. These findings can have important implications for asthma in particular and for national health strategy in general.

Frank Fischer undertook a study in 1980 entitled Politics, Values, and Public Policy: The Problem of Methodology (Fischer, 1980). His purpose parallels the research proposed here:

> My purpose is to show that a synthesis of elements...can supply an alternative foundation for a...methodology for policy evaluation...In a study that explores relatively uncharted territories, the primary purpose must be to indicate new directions and establish openings...If this study contributes to furthering the underdeveloped but emerging dialogue...the effort behind it will have been worthwhile. (pp.4, 214)

## Organization of The Proposal

Chapter II of this proposal will review the literature that provides the foundation for both the conceptual model as well as the specific case context of asthma prevention and control. The development of Healthy People 2000 will be introduced.

Chapter III, Methodology, presents the epistemologic basis for a case study framework. The specific techniques to be used in pursuing the research objectives are presented. Limitations of the approach will be discussed also.

The final dissertation will include the data analysis, the case report and other findings, and the summary and conclusions, as well as recommendations for other research suggested by this study. A complete bibliography and the data collection instruments will be included as appendices.

# CHAPTER II

## REVIEW OF LITERATURE

The literature upon which this research is based and to which this research will contribute comes from diverse sources and is itself indicative of the interdependency of disciplines. For the purposes of this discussion, two distinct categories are recognized. The first body of literature focuses on the theoretical foundations of the policy formulation. The bulk of the literature in this category emphasizes the Rational and Incremental models. However, Deborah Stone's model of the polis in Policy Paradox and Political Reason (1988), and Sylvia Tesh's Hidden Arguments (1988), included in this discussion, led to the conceptualization of policy formulation as a reflexive model that will be introduced as an alternative theoretical proposition, serving as background for examining the Healthy People 2000 objective development.

The second category of literature addresses the particular case context. The discussion of asthma prevention and control lies mainly in the clinical literature, focusing on the nature of the disease and its management. In recent years there has been growing attention to rising mortality and morbidity along with efforts to identify at-risk populations and the overall costs of the burden of illness. These sources will be thoroughly reviewed to establish the current understanding and apparent knowledge gaps concerning asthma prevention and control. This review is also important for the proposed research in that the literature will aid identification of those organizations and interests that could effect the goal of reducing asthma morbidity.

The other critical component of the case context is the unit of analysis itself, i.e. the policy Healthy People 2000 in general and the asthma-related objectives in particular. A brief description of the history and development of Healthy People 2000 was presented in Chapter I. Further

information in this chapter discusses the history of earlier objective setting efforts. However, research questions to be addressed by the study proposed here inquire into the development of Healthy People 2000. Thus, this review of literature does not presume to present a comprehensive picture of the policy formulation at this stage of the research.

## Theoretical Foundation

Policy analysis, whether formal or not, has a long history. Barbara Tuchman, in her March of Folly (1984), cites the discussions and possible alternatives considered in the acceptance of the Trojan horse as a major policy failure (cited in deLeon, 1988). Current national policies are sometimes seen as falling in the same category of failure (Califono, 1986; Fein, 1989). In an effort to better analyze past successes and failures as well as to enhance current and future policy, the theoretical foundations of policy formulation continue to grow. In one review, David Wilson (1980) compares five approaches: rational, incremental, mixed-scanning, general systems, and learning-adaptive. These national planning models parallel models in public policy.

John Dryzek (1990) chooses two extremes and argues for a middle ground. Placing the rational model on one side of the spectrum and a completely intuitive model on the other, Dryzek proposes that a model of "discursive democracy" is more appropriate for the development of inclusive national agendas, with a fuller recognition of "rational persuasion [that] is indeed possible across the boundaries of scientific paradigms, political theories, cultures, or normative positions, even in the absence of transcendent criteria" (page 11).

Bruce Jennings (1987) similarly argues for in medias res, contrasting "widely, albeit tacitly, held models [of policy analysis that] are neither adequate as descriptive representations

nor acceptable as prescriptive, regulative ideals" (page 130). His "policy analysis as council" model falls between the Science Model and the Advocacy Model.

Both Dryzek's and Jennings' discussions seek to develop a alternative theoretical construct for reflection on policy formulation, but stop short of proposing to operationalize the model. Frank Fischer's study (1980), referred to in Chapter I, specifically sets out to develop a methodology for analysis, including the categorization of relevant political data, a framework of policy components, and the breakdown of these components as actual policy questions (Tables 1 and 2). The research proposed here follows this latter design by proposing a theoretical model and operationalizing it in a case study.

The development of theoretical models is important for more than one reason. Models provide generalized, simplified representations of reality, seeking to describe an actual process and to furnish a conceptual framework for analysis (Jennings, 1987; Dubnick and Bardes, 1983). Ultimately, some models become not only descriptive, but normative, arguing that reality should be consistent with the particular framework. Throughout various disciplines, models that become entrenched and perpetuated evolve into paradigms (Kuhn, 1970) or epistemes (Foucault, 1970).

In physical science, the importance of paradigms has been forcefully argued by Thomas Kuhn in his Structure of Scientific Revolutions (1970). History provides more clearly delineated paradigmatic shifts in physical sciences than in the social sciences, and far clearer than policy model changes. Yet literature on policy models can be seen parallelling certain aspects of the shifts in physics theory, from Newtonian physics and LaPlace determinism, to the modern theory of chaos in physics. These parallels are discussed more fully below.

Table 1
A Framework of Policy Components

| | Probe | Inference | Reasons | Criticism |
|---|---|---|---|---|
| **Technical Verification of Program Objectives** | | | | |
| Program Objectives | | | | |
| Empirical Consequences | | | | |
| Unanticipated Effects | | | | |
| Alternative Means | | | | |
| **Validation of Policy Goals** | | | | |
| Relevance | | | | |
| Situational Consequences | | | | |
| Multiple Goals | | | | |
| Precedence | | | | |
| **Vindication of Political Choice** | | | | |
| System Consequences | | | | |
| Equity | | | | |
| Ideological Conflict | | | | |
| Alternative Social Orders | | | | |

Source: Fischer, Frank, Politics, Values, and Public Policy: The Problem of Methodology

Table 2
Components of Policy Questions
(excerpt)

Technical Verification of Program Objectives

| | |
|---|---|
| 1. Program Objectives | Is the program objective logically derived from the relevant policy goals? |
| | -Does the program have several objectives? |
| | -Is the objective(s) compatible with more than one policy goal? |
| 2. Empirical Consequences | Does the program empirically fulfill its stated objective(s)? |
| | -Is there general agreement about the appropriateness of the methodology employed to establish the empirical evidence? |
| | -Are there disagreements over the interpretation of the results? |
| 3. Unanticipated Effects | Does the empirical analysis uncover secondary effects that offset the program objective(s) |
| | -What are the factors in the situation that cause these consequences? |
| | -Do the secondary effects impede the long-run effectiveness of program objectives? |
| | -Do they affect other objectives that take priority over these program objectives? |

Source: Fischer, Frank, Politics, Values, and Public Policy: The Problem of Methodology

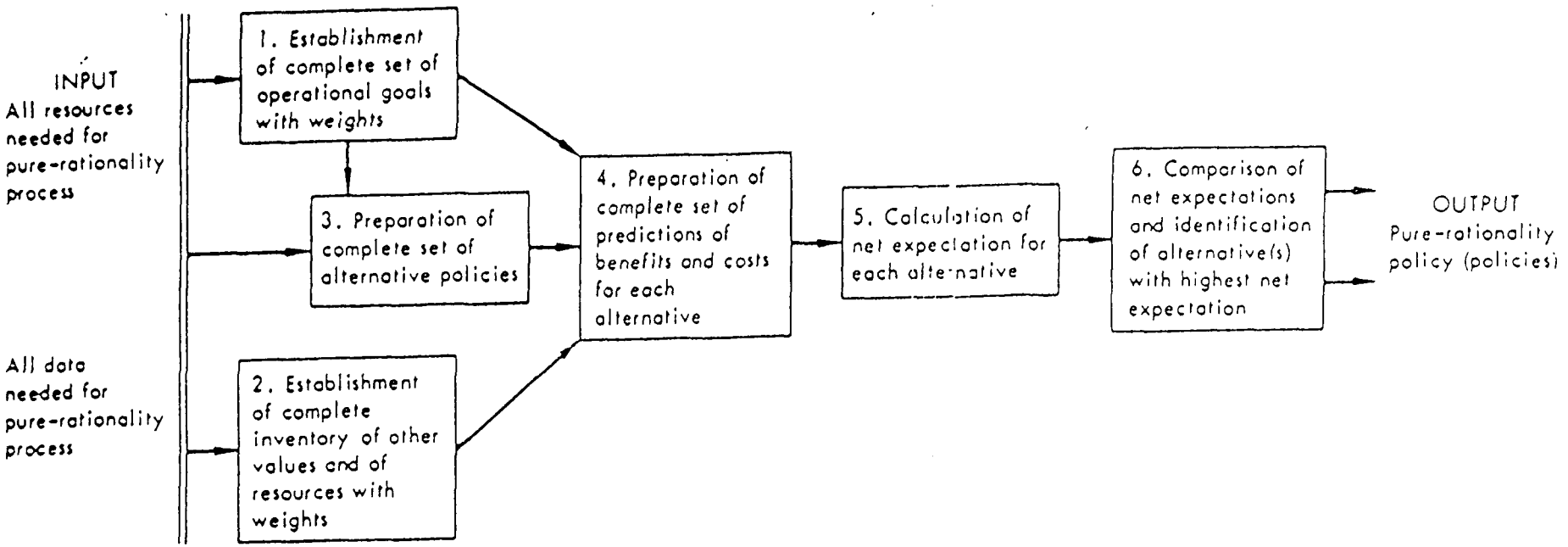
The case study of Healthy People 2000 asthma objectives is used to explore policy formulation against a theoretical background of three policy models. Two of these, the Rational model and the Incremental model have a rich literature, and variations of these themes are evident throughout policy development and analysis (Brewer and deLeon, 1983; Patton and Sawicki, 1986; Jennings, 1987; Wilson, 1980; Simon, 1947; Dahl, 1991). To collapse these variations into two simple categories "is fraught with difficulties and danger - the main one of which is torturing their individual viewpoints onto a procrustean bed" (White and McSwain, 1990, p. 25). However, the simplified representation of these models is justified by the pervasiveness of common characteristics throughout policy making. The Rational and Incremental models will serve as prototypes against which the third model, the Reflexive model, can be contrasted. Table 3 compares major elements of the three models.

Each of these models will be discussed more fully as well as the characteristics that will make it recognizable if it were the dominant framework in formulation of Healthy People 2000 asthma objectives. All three of these models have appropriate uses and applications. However, the "wicked" problems (Rittel and Webber, 1991) that often appear in health policy demand a fuller articulation of an alternative to a reductionistic approach.

**Rational Model** The Rational model is the most common approach in the policy and planning literature, although its pervasive presence is not always explicitly acknowledged (Jennings, 1987). Figure 4 expands the illustration of the steps toward establishing the policy objectives from a rationalist viewpoint.

Table 3
Characteristics of Policy Models

| | RATIONAL | INCREMENTAL | REFLEXIVE |
|---|---|---|---|
| Also called or similar to | Linear model<br>Scientific approach<br>Instrumental rationality | Muddling through<br>Disjointed incremental. | Dialectical<br>Discursive democracy |
| Major characteristics | highly structured<br>data driven<br>outcome oriented | alligence to status quo<br>marginal changes | process oriented<br>perceptual changes throughout |
| Comparable Scientific Paradigm | Newtonian Physics | (loosely) Quantum - atomistic movements | Chaos Theory |
| Value Claims | transmutes values to data - value neutral | value isolated into output | Values incorporated into process |
| Major criticism | Only applicable to "tame" problems; unrealistic | Perpetuates bad policy<br>Uncreative | Unscientific |
| Epistemology | Logical Positivist | Objectivist | Postmodern; postpositivist |
| Primary Sources | Dror<br>Lasswell | Lindblom | Stone<br>Tesh<br>(Dryzek, Schon, Jennings) |
| Pathognomonic Characteristics | clear choices presented; narrowed to preferred goal | little difference from earlier policy | process oriented |




*A Rational Model of a Decision System*

Figure 4 SOURCE: Thomas R. Dye, Understanding Public Policy.

The epistemology of the rationalist model is grounded in Leibnizian and Lockean inquiry systems, to use Churchman's language (Churchman, 1971). Table 4 describes the spectrum of inquiry systems. Leibnizian and Lockean approaches are characterized by the collection of "hard" data and a resulting construction of a formal theoretical model that symbolizes an external reality. The "truth", the "right answer" is out there somewhere and it is incumbent upon the policy maker to discover and act on it. This approach is parallel to the physical science model of experimentation and falsification (Popper, 1985).

In policy formulation, the Rational approach is manifested in a framework of linear progression through a series of clearly defined steps. Dery has labeled it "The Way of the Sixfold Path" with the following steps (Dery, 1984, p. 14):

1. Seize the Problem
2. Hustle the Data
3. *Construct* the Alternatives
4. Project the Consequences
5. Confront the Tradeoffs
6 Tell the Story

This approach is perpetuated by inculcating students of policy and planning to this model with only perfunctory acknowledgement of other frameworks (Patton and Sawicki, 1986).

Deborah A. Stone critiques the rational model in what she calls the "contemporary rationality project" (Stone, 1988, pp. 4-7) that rests on three pillars. The first, a model of reasoning, assumes decisions are made in the kind of steps noted above. The model of society in the contemporary rationality project is based on the free-market idea of fully informed, rational decision makers maximizing their individual utility. The model of policy making is a "production model of policy assembled in stages, as if on a conveyor belt" (Fischer, 1989, p. 944).

Table 4

Characteristics of Inquiry Systems

Leibnizian IS

How can one independently of any empirical or personal considerations give a purely rational justification of the proposed proposition or assertion? Can one build or demonstrate a rational model which underlies the proposition or assertion? How was the result deduced; is it precise, certain?

Lockean IS

Data are always prior to formal theory. How can one independently justify the means of some objective data or the consensus of some group? What are the supporting "statistics"? What is the probability that one is right?

Kantian IS

Since data and theory (models) always exist side by side, does there exist some combination of data or expert judgement plus underlying theoretical justification for the data that would justify the propositions?

Hegelian (Dialectical) IS

Since every set of propositions is a reflection of a more general theory or plan about the nature of the world as a whole system, i.e. a world view, does there exist some alternate sharply differing world-view that would permit the serious consideration of a completely opposite set of propositions? Why is this opposing view not true or more desirable?

Singerian IS

Is the perspective of the basic problem broad enough? Have the right questions been asked? To what extent are the questions and models of each inquirer a reflection of the unique personality of each inquirer as much as they are felt to be an "natural" characteristic or property of the "real" world?

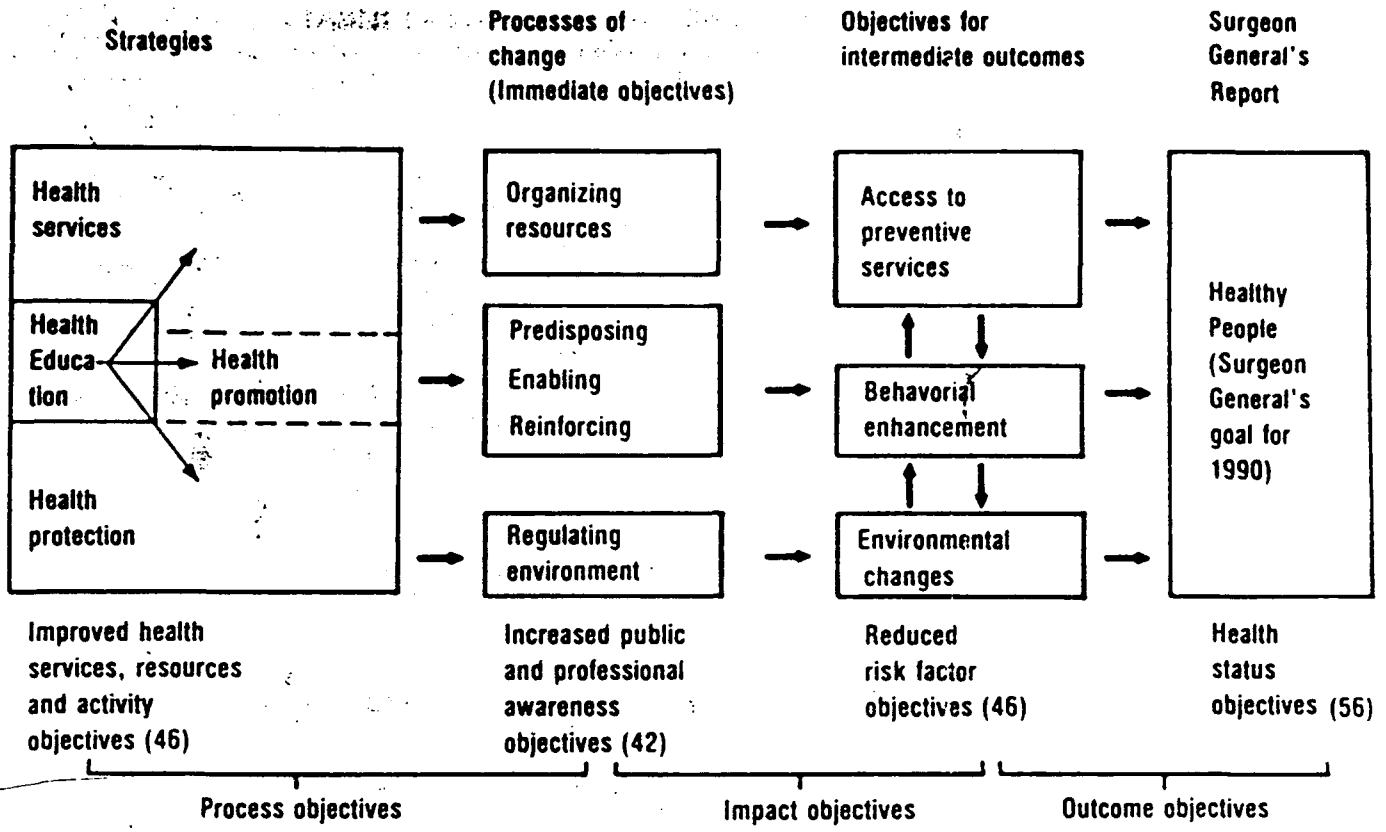
Source: Churchman, C.West, Inquiring Systems

Progenitors of the Rational model are, among others, Harold Lasswell (Lasswell, 1971) and Yehezkel Dror (Dror, 1971), and their efforts to create a "policy science" that would mimic the physical science model. Herbert Simon (Simon, 1947), though careful to place "policy" outside the realm of facts and reductionistic processing, is nonetheless a key figure in the turn toward rationalism in the social sciences as applied in public administration and policy. Whatever fuller concept he intended is now subsumed in the Science Model (Jennings, 1987).

How might the Rational model appear if applied in the development of national health objectives? Figure 5 accompanied a discussion of the 1980 process to develop objectives for 1990. These "can be seen as causal chain of events and outcomes that must be achieved in order to accomplish the broad goals outlined" (Green et al 1983, p. 19).

Further evidence indicates a rational model was the guiding framework for this earlier policy formulation. "Statistical analyses derived from reliable data...are the sine qua non for establishing the true nature of problems preventive measures should address" (U.S.Public Health Service, 1980, p. 3). To avoid the inclusion of explicit values in the policy process, the 1980 document claims that the objectives were designed essentially for "well people" (page ). This value neutrality is critical to the Rational model to complement the discovery of unbiased facts.

Perhaps because of the appeal of the rationalist model to the preferred Western philosophy of individuality, autonomy, and predictable behavior, the Rational model continues to be a favored approach throughout American policy (Jennings, 1987). However, as is true in other disciplines ranging from philosophy to health care to economics, alternate ways of viewing logic, decision-making, and cognition are being proposed (Bernstein, 1988; MacIntyre, 1988; Etzioni, 1991; Kuttner, 1987; Callahan, 1990; Evans and Patel, 1989; Brewer and deLeon, 1983; Schon, 1983).




Structure and Logical Relationships of the Objectives for the Nation in Disease Prevention and Health Promotion

SOURCE:

LAWRENCE W. GREEN, DRPH, RONALD W. WILSON, MA, AND KATHERINE G. BAUER, BA

**Incremental Model.** A model focussing on the incremental changes made in policy formulation was initially proposed by Charles Lindblom (Lindblom, 1959), primarily because he felt the Rational model was an inaccurate representation of reality. Lindblom may have also thought policy should be made incrementally. He "assumes policy making is serial, that it proceeds through long chains of political and analytical steps with no sharp beginning or end and no clear cut boundaries...Thus only those alternatives that differ incrementally from current policy...need be examined" (Quade, 1989, p. 29).

Policy-making becomes a tinkering at the margins, cautiously "seeking incremental improvements to policies by evaluating limited numbers of options which...may make some improvement over the status quo" (Whitsitt, 1988, p. 9). Clearly there are policies formed in government that follow this model (the annual federal budget is a glaring example). There are also times when it is an appropriate approach, particularly if a currently policy is seen as "working" and mere marginal changes are advantageous.

The Incremental Model, like the Rational model, has become deeply ingrained in a conservative approach to government. Amitai Etzioni argues that this model inhibits creative responses to situations and can lead to continuation of poor policy (Etzioni, 1967). A more specific criticism is leveled at incrementalism by Garry Brewer and Peter deLeon:

> [C]ontextual and process matters are naively slighted by incrementalists, as are unique and chance events, distinctive personalities, human passions and foibles, the clash of conflicting ideologies and belief, and numerous other factors given prominence in other approaches to [policy] (Brewer and deLeon, 1983, p. 24)

The epistemological basis of the Incremental model, though less optimistic about rational input to policy, is nonetheless an objectivist viewpoint. Values are present but can be ignored

or reduced to a single conviction, emerging only as an output (Wilson, 1980) so that policymakers can agree and move on. Ends and means are not clearly separate, yet evaluation of the policy is centered on outcomes, following the Inquiring Systems model discussed above.

If an Incremental model were dominant in the Healthy People 2000 policy making process, the approach would focus on making marginal changes to the previously existing position. Objective targets may have been altered to better reflect new information. Primary attention would be to maintain the status quo and to "disregard broader issues of goals...and values" (Brewer and deLeon, 1983). The inclusion of extensive citizen input would be curtailed (Wilson, 1980). The introduction of major new agenda items or, more importantly, guiding principles, would be conspicuously absent.

**A note on Bargaining.** Bargaining, an exchange of interests and resources to achieve ends, is pervasive in American government, particularly in Congressional decision-making. An excellent narrative/case study of bargaining as policy formulation is Eric Redman's Dance of Legislation that describes the creation of the National Health Service Corps (Redman, 1973).

Garry Brewer and Peter DeLeon note that "whatever the merits or demerits of bargaining or political compromise...it is clear that it is a critical factor in the selection process and must be taken into account by the analyst' (Brewer and deLeon, 1983). Despite being a model that incorporates the complex exchanges of resources, influence, and interests, a bargaining model of policy formulation still represents well-defined players negotiating toward a known end. An alternative to this omission is a conceptual model that captures the evolution of a solution and focusses on the process.

**A Reflexive Model of Policy Formulation.** The aim of the Reflexive model "is to derive a kind of...analysis that makes sense of policy paradoxes...To create a framework in which such phenomena...do not have to be explained away as extraordinary, written off as irrational, dismissed as folly, or disparaged as 'pure politics'" (Stone, 1988, pp. 4-5).

The image of the Reflexive model is metaphorically illustrated by the chaos theory description of a snowflake representing "a delicate balance between forces" (Gleick, 1987a, p. 309). The formation of a snowflake resists the "seductive reduction" (Feltovich et al 1989, pp. 126-127) of other physical formations. "It costs energy to make surfaces that are rough " (Gleick, 1987b, p 25). "As in the making of an exquisite snowflake, intricate understanding may have to oppose such 'reductive forces'" (Feltovich et al 1989, pp. 126).

It is this intricate understanding and resistance to seductive reductionism that Deborah Stone and Sylvia Tesh argue for in their separate work (Stone, 1988; Stone, 1989; Tesh, 1988). The model is not without historical referents. Mary Parker Follett, speaking in 1932 made similar arguments:

> A mistake we often tend to make is that the world stands still while we are going through the process of a given adjustment. And it doesn't...[The] process of adjustment changes the things to be adjusted....It is a fallacy to think that we can solve problems - in any final sense. The belief that we can is a drag upon our thinking. What we need is some process for meeting problems (Follett, 1932, p 166).

In a Reflexive model, input to the situation precipitates further changes both in the situation and in the participants' views (Soros, 1987). George Soros depicts this process mathematically as a pair of recursive functions that do not produce an equilibrium; they produce a never ending process of change:

Reflexive Functions

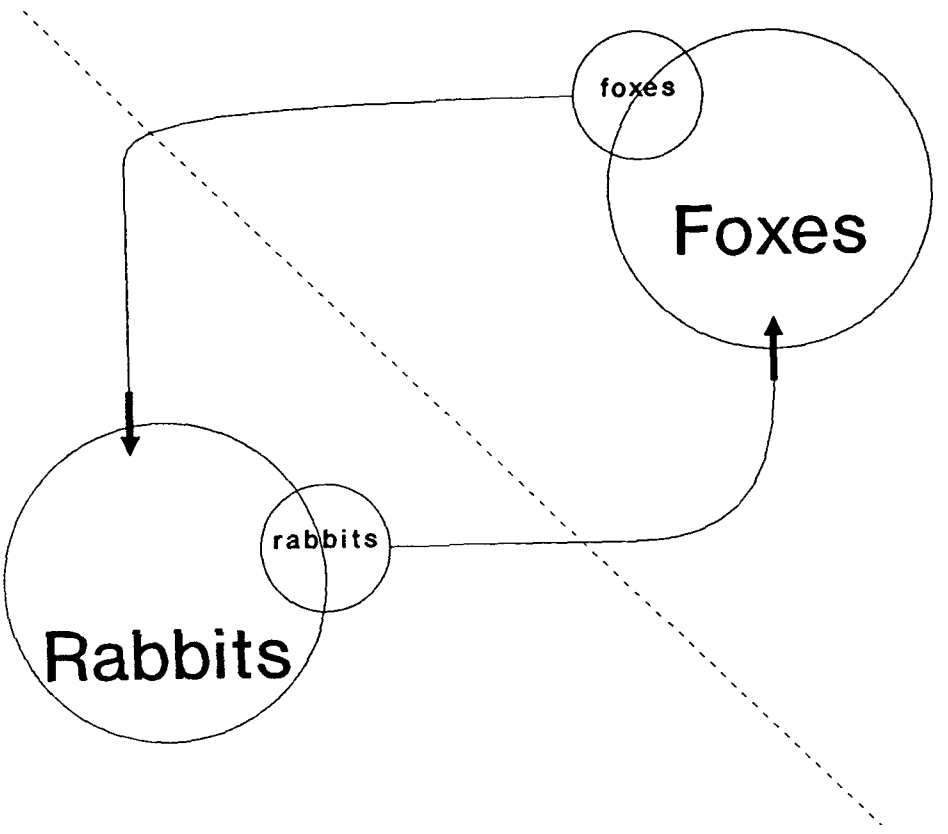
$y=f(x)$ cognitive function
$x=f(y)$ participating function

therefore $y=f[f(y)]$
$x=f[f(x)]$

Interdependencies have also been modeled symbolically by a language of "foxes and rabbits" (Schwarz et al 1982), wherein each is dependent on the population of the other. Figure 6 illustrates this depiction. E.Sam Overman reinforces the idea of interconnectedness within policy-making by his comment that "policy design is not sequential but integrative; not determinant but recursive" (Overman, 1988, p. 113).

The Reflexive model is a contextual reality rather an objective reality. Referring again to Churchman's inquiry system, this model is consistent with a Hegelian or Singerian inquiry wherein the "system designer is a fundamental part of the system" (Churchman, 1971, p. 150) and the conflicting understandings of reality constantly interplay to create a process of changing reality. (See Table 4).

This movement towards a "postpositivist" view is paralleled in other disciplines (Callahan, 1990; Gilligan, 1982; Evans and Patel, 1989; Etzioni, 1967), but perhaps is most interestingly compared to a model of policy formulation via the chaos theory of physics. Stone comments that the world of policy seems to parallel the world of science with about a fifty year lag (Stone, 1988). Though chaos theory is hard to trace beyond Edward Lorenz in 1968 (Gleick, 1987) or Ilya Prigogine in 1979 (Prigogine and Stengers, 1984), the modern influence is becoming pervasive, as evident in a recent quote in Time Magazine:




- There is one population of foxes and one of rabbits
- The number of foxes tells us how many new foxes or rabbits are to be added to the population
- However, each new input is controlled by the input to the other population

Figure 6. Symbolic illustration of reflexive relationship

Source: Schwarz, Brita et al, 1982

> History in the late twentieth century seems to belong...more to chaos theory and fractals; it moves by bizarre accelerations and illogics, by deconstructions and bursts of light" (Morrow, 1991, p. 21).

This concept of "extrarational" or "disciplined imagination" (Rodin and Key, 1989) as legitimate input into policy are primary characteristics of the Reflexive model.

Along with this characteristic, an important component of the Reflexive model is what Stone calls 'causal stories', Tesh calls 'hidden arguments' and Schon (Schon, 1983) and others (Hummel, 1991) label metaphors. Analyzing policy formation against a theoretical background that includes a Reflexive model facilitates identification of these "causal ideas" where:

> Problem definition is a process of image making, where the images have to do fundamentally with attributing cause, blame, and responsibility. Conditions, difficulties or issues thus do not have inherent properties that make them more or less likely to be seen as problems or to be expanded. Rather,...actors deliberately portray them in ways calculated to gain support for their side (Stone, 1989, p. 282)

If a Reflexive model dominates in the formation of the asthma objectives in Healthy People 2000, the following elements will emerge from the case study.

1. overt discussion of values as input
2. extensive citizen interaction
3. "causal stories"
4. shifts in participants' views of both the process and the proposed 'solutions' over time
5. acknowledgement of the process separate from the attainability of the targets

An indication that the Reflexive model may have guided (albeit perhaps unconsciously) the Healthy People 2000 process stems from the following statement by the director of the lead office:

> A social consensus is...emerging that our national goals ought not to be based on mortality reductions alone, but also on principles of reduced disability and improved quality of life, of closing the health status gap that exists between those who are privileged and those who are disadvantaged in our nation, of universal access to basic health services regardless of socioeconomic status. Addressing these principles directly is central to making progress against the kinds of challenges that will grow in the decade of the 1990s. (McGinnis, 1990, p. 244)

## CASE CONTEXT LITERATURE

**Asthma related literature.** The medical literature is replete with articles concerning asthma and its management. This section will review the asthma related literature that focusses on morbidity and mortality, costs, and equity as well as current management of the disease.

The asthma-related literature reviewed below is derived from research using the data bases of the National Library of Medicine, pharmaceutical reviews, business periodicals, government documents, and unpublished reports from asthma-related organizations and agencies. The research is expected to be reasonably complete through early 1991. Though the earliest writing referred to was originally written in the twelfth century (Muntner, 1963), most relevant articles have been published within the past decade.

**Morbidity and Mortality**. Literature focussing specifically on morbidity and mortality in asthma has increased over the past decade. This in part reflects a rise in medical literature in general. However, articles identified as having mortality and asthma as keywords have increased steadily from less than 15 per year in 1980-1983, to 45 per year in 1986-1988, to more than 50 per year

in 1989-1990. Death from asthma, while still a relatively rare event, has increased more than 100% in the United States in the last ten years (Walker et al 1990). This seems particularly odd when deaths from chronic diseases in general are declining (Nicklas, 1989) and treatment for asthma is considered effective (Buist and Vollmer, 1990).

Other countries have also experienced a rise in fatal asthma. New Zealand, England, Wales, and Australia experienced an "epidemic of asthma deaths" in the 1960s (Walker et al 1990), which have been attributed, though inconclusively, to overuse of specific medications. Studies of death from asthma have reasonably reliable data when examining populations of patients under 35 years old. Accuracy of diagnosis declines as the patient population ages from a 95% accuracy rate in under 35 year olds to less than 35% accuracy when patients are over 75 years old (Weiss and Wagener, 1990). Deaths from asthma in children ages 5-14 declined an average of 8.2 percent per year from 1968 to 1978 and then increased an average of 10.1 percent between 1979 and 1989 in the United States.

The cause of these increases in asthma fatalities is by no means clear. Overuse and incorrect use of asthma medications remains a possibility in at least some deaths, though studies have not been able to demonstrate this conclusively [cit]. Other possible predictors include race/ethnicity, poverty, geographic location, and a general increase in asthma severity (Weiss, 1990a; Weiss and Wagener, 1990b). As an indications of the disagreement still prevailing over the causative factors, one author claims the variations in mortality rate are due to variations in dietary sodium (Burney, 1988).

Other indications of an increase in the general prevalence of asthma include increased hospitalizations, school days and work days lost due to asthma, and an increase in outpatient visits

to physicians for asthma-related complaints. A change in the coding of inpatient diagnosis in the International Classification of Diseases in 1979 was thought to be a factor in the increased number of hospitalizations attributed to asthma (Buist and Vollmer, 1990). However, recent studies using data that allowed controlling for this factor, indicate the change in classification does not explain the rise in hospitalizations (Weiss and Wagener, 1990).

Actual prevalence of asthma throughout the population is difficult to determine. Most studies utilize interview data in selected samples and must often rely on parents' reporting on children. There are studies of this type repeated at different time periods that demonstrate a reported rise in asthma prevalence (Shaw et al 1990; Mitchell and Anderson, 1990). Some questionnaire surveys are supplemented by physical examinations. Tager et al (1987) review a variety of studies and their limitations, and conclude that research using data from questionnaires will always be threatened by the subjective impression of the patient or patient's parent. Were inconsistent trends being reported by various studies, the conclusion that prevalence of asthma is increasing internationally would be suspect. Some authors continue to contest that conclusion (Anderson, 1989). However, the preponderance of evidence "lends credibility to the notion that asthma prevalence may be increasing, at least in some areas and/or some countries" (Buist and Vollmer, 1990, p. 1720).

**Costs of Asthma**. Studies of the costs of asthma are not nearly as numerous as those on the morbidity and mortality of asthma. The most comprehensive study (Weiss et al 1990), still in press at the time of this writing, utilizes data from the National Ambulatory Medical Care Survey, the National Hospital Discharge Survey, the National Health Interview Survey, the Vital Statistics System, and the National Medical Care Utilization and Expenditure Survey to extract utilization

and cost data for an International Classification of Disease (Revision 9, codified Manual) code of 493. The authors present direct cost data for hospital admissions, emergency services, physician visits, and selected diagnostic services, and some prescription medications. These direct costs were $2.27 billion in 1985. Indirect costs from school and work days lost and premature mortality totaled $2.09 billion. Projecting these utilization rates using 1990 dollar brought the total estimate to $6.358 billion for direct and indirect costs of asthma in the United States. The Health Care Financing Administration has reported that asthma-related expenditures were more than $4 billion in 1988 (Centers for Disease Control, 1990).

One concern when examining the cost of physician treatment for asthma is the possible difference between generalists and specialists approach to diagnosis and treatment. Fowles et al (1989) compared utilization and charge patterns of these two groups of doctors when treating patients within a health maintenance organization setting. They found that there were differences in the diagnosis and treatment decisions, but, according to their findings, the differences offset each other so that there was no significant difference in either charges or utilization between groups. However, other studies imply greater differences not explained by diagnosis or severity (Engel et al 1989). John Wennberg's work (Wennberg et al 1987) exploring physician practice pattern variation indicates that costs may be altered by standardizing physicians' approach to diagnosis and treatment.

Asthma is most often managed by drug therapy. In the United States, the most frequently prescribed drugs are theophylline and aminophylline. Prescriptions for long-acting theophylline more than doubled between 1981 and 1985. There were also increases in other asthma medications. Antiasthma prescriptions increased 200% between 1972 and 1985, compared to

an overall 7% rise in drug prescriptions during the same time period (Buist, 1989). This does not include over the counter medications nor does it address whether these are prescribed to a larger number of patients or a larger number of prescriptions per patient. Nonetheless, an increase in prescription drugs of this magnitude implies an increase in the cost of drug therapy overall.

**Equity**. Few studies specifically address the inequitable distribution of the burden of illness of asthma across racial and socioeconomic factors. As data sources and comparability have improved, morbidity and mortality differences between whites and blacks have become more evident. In 1987 blacks died from asthma three times more often than whites (National Heart, 1989). The Second National Health and Nutrition Examination Survey (NHANES II) conducted between 1976 and 1980 included 4,661 whites and 1,011 blacks between the ages of six months and eleven years. Crude asthma prevalence was 7% among blacks versus 3.0% among whites (Schwartz et al 1990). Holding sex and age constant, race was still significant as a predictor of asthma. This study was limited by the survey nature of the research, requiring that subjects (or, in the case of children less than eleven, subjects' parents) recall whether a doctor had told them they had asthma and to self-evaluate whether they still had asthma.

When the data were examined another way, the NHANES II study indicated that the prevalence of asthma in black children was associated with prenatal, perinatal and childhood risk factors that were in turn associated with poverty. Weiss has more recently demonstrated a correlation between high mortality rates and race/ethnicity and poverty (Weiss and Wagener, 1990). Hospitalizations within New York City from 1982-1986 varied dramatically by geographic location within the city. Hospitalization rates were fifteen times higher in East Harlem than in Greenwich Village (Weiss, 1990a). That poor children may be at greater risk of hospitalization

due to asthma is substantiated by Medicaid data, these children's usual source of hospital payment. Asthma is the most frequent cause of children's admissions under Medicaid (Weiss et al 1990).

As the nation's health expenditures grow, it is increasingly important to consider the underlying cause of these costs and the effect of health policy on these costs. The data indicate that the burden of illness of asthma is disproportionately shouldered by non-whites and/or those people living in poverty. The introduction of new medications may be of little or no assistance to this group. Asthma education programs can have only minimal impact on patients whose reading comprehension skills are limited or who have no access to a primary care physician (Klingelhofer and Gershwin, 1988). Much more research is warranted on the effect of providing access to care.

**Background of National Health Objectives.** An often cited predecessor to the current objective setting process is Lemuel Shattuck, who, in 1850 delivered his "Report of a General Plan for the Promotion of Public and Personal Health" to the Massachusetts Legislature, and for whom the New England Journal Shattuck Lecture Series is named. In 1979, then-Surgeon General Julius B. Richmond outlined goals linked to five life stages, from infancy to older adulthood (Breslow, 1987). This evolved into the document released in 1980 that detailed fifteen priority areas:

Priority Areas of 1990

1. family planning
2. pregnancy and infant care
3. immunizations
4. sexually transmissible disease services
5. high blood pressure control
6. toxic agent control
7. occupational safety and health
8. accidental injury control

(Priority areas continued...)

9. fluoridation of community water supplies
10. infectious agent control
11. smoking cessation
12. reducing misuse of alcohol and drugs
13. improved nutrition
14. exercise and fitness
15. stress control

The guiding strategies for determining the objectives were (1)a balance of risks and benefits, (2)scientific agreement of consequences, and (3)indications that continued evaluation and research would improve the objective area. Working groups were established in 1980 to determine the 226 final specific targets. As an example, Objective M in the area of Smoking and Health says:

> By 1990 laws should exist in all fifty states and jurisdictions prohibiting smoking in enclosed public places, and establishing separate smoking areas at work and in dining establishments.

The prioritization and operationalization of the objectives was left to state and local governments, though the document was widely promoted by the U.S. Public Health Service. The objectives for 1990 did "focus attention on the major, current health problems and present a strategy for dealing with them" in the views of at least some analysts (Breslow, 1987, p. 292).

A Midcourse Review (U.S. Public Health Service, 1985) of the objectives for 1990 was undertaken in 1985 and found that 13% of the objectives had been accomplished and another 35% were still on track. Twenty-six percent of the objectives required data that were not available to evaluate the progress. This latter observation proved to be a critical element in the objectives for 1990, which were based on the assumption that "by 1990, the Nation [would] have a considerably improved data collection network" (U.S.Public Health Service, 1980, p. 4).

Actually, even in 1990, the oversight of the objectives still required data from over forty different sources and that were even then inadequate.

Despite the early ambition of continual revision of the objectives throughout the decade, periodic evaluation became the norm (Centers for Disease Control, 1985) and incorporation of new disease problems was lacking over the next decade. A target was set for monitoring Legionnaire's disease which appeared as a public health problem after the original objectives were established (Files, 1991). However, the objectives were never adjusted to include any mention of AIDS which was clearly a pressing problem before the end of the decade. This in part reflects the stated position that the 1990 objectives were designed for "well people" and any objective that was related to early detection was purposely omitted (U.S.Public Health Service, 1980, p. 2).

The primary message in the objectives for 1990 was that "your lifestyle is making you sick" (Tesh, 1988; Freid, 1987) and by establishing public health awareness of problems, individuals could correct their health deficits. As McGinnis's comment above reflects, a larger sense of community responsibility prevailed by the time the 2000 agenda was undertaken.

The objective setting process has not been limited to the United States. The USSR proposed a Five-Year Plan for Public Health in the early 1970's, the Pan American Health Organization emphasized health in developing countries in its 1972 Ten Year Plan, and Sweden and Canada have national plans as well. The World Health Organization prompted member nations to prepare forward looking agendas when it called for "Health for All" in its Global Strategy (Breslow, 1987).

The focus of the research proposed here will be on the policy formulation process through attention to the emergence of new agendas, in particular the prevention and control of asthma. Asthma was not mentioned in the objectives for 1990 except within a comment that accompanied the above smoking objective, noting that "involuntary smoking is highly annoying...[and] can exacerbate the symptoms of asthma" (U.S.Public Health Service, 1980). Extensive review of the Healthy People 2000 development process will be a part of the case study methodology and a report of this process will appear in the final dissertation. Figure 7 indicates the overall evolution of the document.

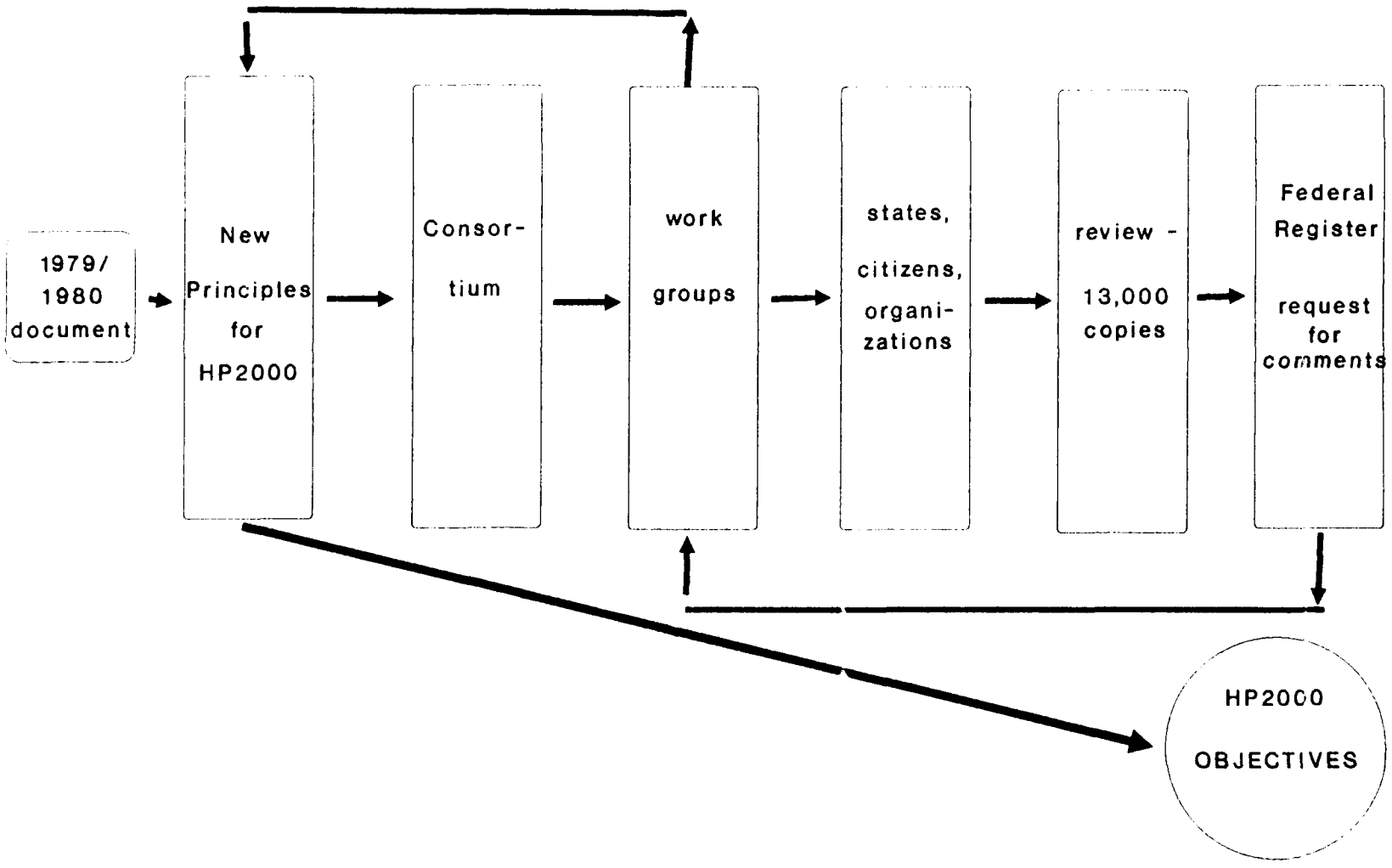
## Summary

This chapter has reviewed the relevant literature that provides the foundation for the theoretical context and the specific case context of the research proposed. This review included the introduction and explication of the three policy formulation models that will serve as the theoretical framework for an inquiry into Healthy People 2000 and the asthma-related objectives therein.

The case context literature review looked at asthma morbidity and mortality discussions, national and international trends, costs of asthma, and the impact of socioeconomic and ethnic characteristics on prevention and control of asthma. The historical background of the development of Healthy People 2000 was reviewed.

Chapter III will detail the case study methodology and the particular techniques applied in this research.

# HEALTHY PEOPLE 2000
# EVOLUTION



Chapter III

# METHODOLOGY

The methodological framework for the research proposed here is a case study. Case studies have been used in policy analysis and research for such diverse subjects as the impact of the Hill-Burton Act (Rohrer, 1987), the Cuban Missile Crisis (Allison, 1971), and an administrative analysis of the U.S. Forest Service (Kaufman, 1972). In the study proposed here, the unit of analysis is the objective - or objectives - within Healthy People 2000 that relate to asthma prevention and control. As Eric Redman's Dance Of Legislation suggests, a more appropriate term might be the "vehicle" of analysis (Redman, 1973), the case study being designed to stimulate further dialogue and thought rather than provide an absolute answer.

This chapter will describe the case study as a general methodological framework and then focus on the techniques to be used in the phases of the research. The initial interview guide and data analysis instruments are included.

## Case Study Methodology

A case study differs from other methodologies in several ways, according to Robert Yin (1984). Specifically,

> A case study is an empirical inquiry that:
> -investigates a contemporary phenomenon within its real-life context; when
> -the boundaries between phenomenon and context are not clearly evident; and in which
> -multiple sources of evidence are used. (p. 22)

A case study is particularly useful as a research strategy when trying to "illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result" (Yin, 1984, p.هـ). The choice of a methodology appropriate to the research concerns is

is critical. Yin has suggested that three conditions indicate a case study as a fitting methodological framework:

> 1. the type of research questions
> 2. the control the investigator has over the actual behavior of events; and
> 3. the focus on contemporary as opposed to historical phenomena. (page 13)

Table 5 presents different research strategies and how each of these conditions relate to that strategy.

Selection of the case study as a "strategy", or in the language of this proposal, a methodological framework, does not dictate a single technique. One of the "case study's unique strengths is its ability to deal with a full variety of evidence, [i.e.] documents, artifacts, interviews, and observations" (Yin, 1984, p. 20). The specific techniques used in this case study of Healthy People 2000 objectives are discussed more fully below.

One criticism of the case study methodology is that it is "unscientific" (Hummel, 1991). This is an epistemologic argument; it asks "how do we know what we know?" The criticism that case studies do not meet scientific standards of validity is leveled at qualitative approaches in general (Moreno, 1989) and stems from a position in a Leibneizian and Lockean inquiry system, as discussed in Chapter II. (See Table 4). When the test question concerning scientific validity attacks the generalizability of a case study,

> this...criterion...begs the question of what [researchers seek] to learn from case studies; it begs the question because it predefines knowledge in an analytic scientific way...[Instead], the knowledge they seek must answer the question "What is going on here?" before any scientific attempt at measuring what goes on where and when" (Hummel, 1991, p. 32).

Table 5

Relevant Situations
for Different Research Strategies

| Strategy | Form of Research Question | Requires Control Over Behavioral Events? | Focuses on Contemporary Events? |
|---|---|---|---|
| Experiment | how, why | yes | yes |
| Survey | who, what where how many how much | no | yes |
| Archival analysis (e.g. econ study) | who, what, where, how many, how much | no | yes/no |
| History | how, why | no | no |
| Case Study | how, why | no | yes |

Source: Yin, Robert K. Case Study Research: Design and Methods

A more justified criticism of case studies is lack of rigor in design and in applying research techniques. Poorly executed case studies may first fail to be grounded either in a pre-existing theoretical framework, or in the case of truly inductive, exploratory research, in a well-articulated design that facilitates the development of grounded theory (Strauss, 1987; Corbin and Strauss, 1990). Secondly, they may omit an organized approach to data collection, and may include undocumented sources or inconsistently collected data. Thirdly, they may be reported in a rambling, disorganized style that fails to engage the reader.

The theoretical foundation for the research proposed here has been demonstrated by the preceding discussion in Chapter II. The other limitations, disorganized data collection and incoherent account, can be controlled for by the choice of specific techniques, technical application, and skillful research reporting.

Collection of the data through historical techniques, questionnaire, and interviews requires research skills different from those used in a more quantitative approach. The specific techniques are iterative in that they may evolve as the full picture of the case emerges. The data collection relevant to how each research question will be pursued is discussed in more detail below.

Lack of skillful articulation jeopardizes the case study. The researcher must choose among the various data for those that most accurately portray the meaning of the case. Borrowing from historical reporting:

> The writer...has a number of duties vis-a-vis the reader...The first is to distill. He [sic] must...assemble the information, make sense of it, select the essential, discard the irrelevant, and put the rest together...To offer a mass of undigested facts...is of no use to the reader and is simple laziness on the part of the [researcher].... To discard the unnecessary requires courage and also extra work, as exemplified by Pascal's effort to explain an idea to a friend in a letter which rambled on for pages and ended, "I am sorry to have wearied you with so long a letter but I did not have time to write you a short one." (Tuchman, 1982, pp. 17-18)

The final criticism of a case study methodology is the lack of evaluation criteria. Hummel argues that the standards applied to case study-type research are "relevance standards first and factual standards second...In fact, relevance standards are epistemological stands of the first order, because they ask the question 'Does this ring true?'" (Hummel, 1991, p. 38). Other criteria are the usefulness, as opposed to the hardness of the model that guides the case study and whether the research and the reporting of the research act to inform the process.

The standards of validity and reliability, time-honored in the research community, are not irrelevant in the case study and in the future oriented research of the second research concern here (Amara and Salancik, 1972). Table 6 presents the tactics for establishing construct validity, internal validity, external validity and reliability in case studies. The least applicable validity in the research proposed here will be external validity. The first research question will focus on three different objectives, but the ability to generalize beyond these is arguable. Whether this limits the usefulness of the case study is addressed by Yin in his comment that "...case studies are generalizable to theoretical propositions and not to populations or universes" (Yin, 1984, p. 21).

Table 6

Case Study Tactics for Four Design Tests

| Tests | Case-Study Tactic | Phase of Research in which Tactic Occurs |
|---|---|---|
| Construct validity | use multiple sources of evidence | data collection |
| | establish chain of evidence | data collection |
| | have key informants review draft case study report | composition |
| Internal validity | do pattern matching | data analysis |
| | do explanation building | data analysis |
| | do time-series analysis | data analysis |
| External validity | use replication logic in multiple case-studies | research design |
| Reliability | use case study protocol | data collection |
| | develop case study data base | data collection |

Source: Yin, Robert K. Case Study Research: Design and Methods

An interesting caveat to verification in future oriented studies is introduced by Martino (Martino, 1983). The only real check on the reliability is to observe the phenomenon when the time focussed on in the research has passed. For instance, in Research Question 2, the presence or absence of Year 2000 data and asthma prevention and control activities will be empirically verifiable only after 2000. However, a forecast may influence the outcome, either in a positive way, in which case it is a self-fulfilling forecast, or in a negative way, i.e. a self-defeating forecast. This observation is quite consistent with the theory of a Reflexive model introduced in Chapter II. Controls for these "limitations" are addressed in Table 6. In particular, review of the case study report by critical actors will aid in producing foresight into future activities, as opposed to a forecast (Grant et al 1988).

## Specific Research Strategies

The case study of Healthy People 2000 asthma-related objectives can be depicted as the phases of research seen in Figure 8. These phases include review of archival data sources, interviews, data analysis, and case reporting. These steps do not proceed in a serial fashion, but are nonetheless reasonably distinct in character.

**Phase I - Archival Data Collection.** This phase of the research was begun during the problem definition stage to understand the context of the policy development process. The most obvious source of archival data concerning the development of Healthy People 2000 is the document itself, which has just been released in final form (March 1991). Earlier drafts provide insight into changes that took place during the process.

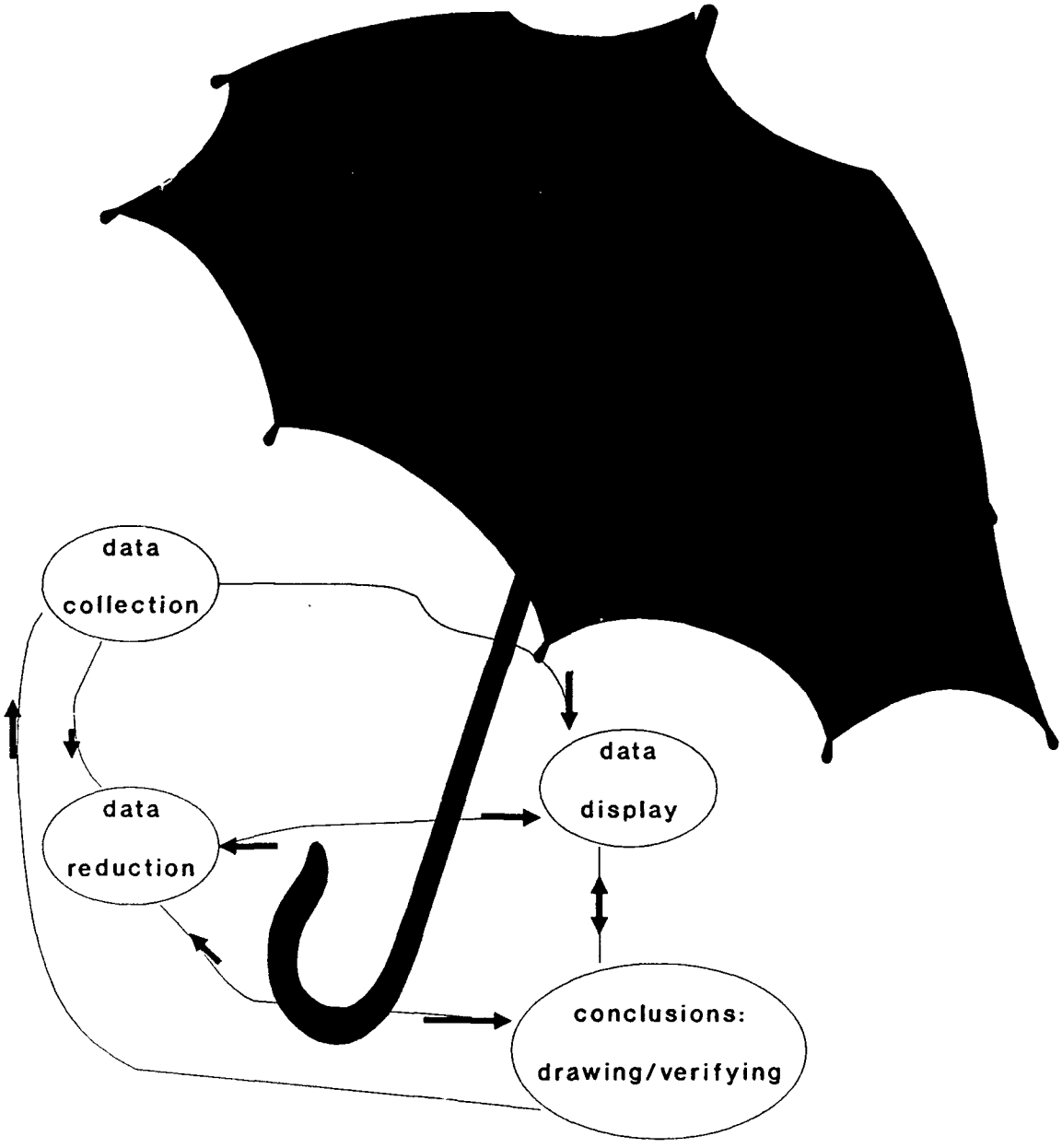



Figure 8. Interactive Data Analysis

Suggested by Miles & Huberman, 1984

Full identification of all data sources will emerge as the research develops, consistent with a grounded theory approach (Strauss, 1987). However, categories of data include the following:

- official published information about the policy formulation
- files of workgroups
- correspondence
- comments received
- Institute of Medicine data base (a computerized text of all official testimony and comments)
- unpublished reports, e.g. internal working memos
- related journal articles
- tangential information e.g. legislation or Congressional testimony that references the Healthy People 2000 document

Most of these sources are publicly available. Access to archival sources not publicly available has thus far been obtained by special request to the controlling office (Files, 1991). As Miles and Huberman point out, the challenge will not be in locating additional data sources, but rather in bounding the data collection so that it does not "proliferate endlessly" (Miles and Huberman, 1984, p. 37). Coding of the data will assist in this process and is discussed below under Data Analysis.

**Phase II - Interviewing.** The interview type selected for this research is known as elite interviewing, as defined by Lewis Dexter in 1970 (Dexter, 1970). He differentiates elite interviewing from standardized interviewing both by the purposeful selection of the interviewee as a person with special knowledge, and by the researcher's approach to interviewing. This latter characteristic is a contrast between a fixed definition of a problem and of the questions to be answered and a stance of openness to the interviewee's perspective of a situation.

Other people from whom information is gathered, but who are not purposefully sampled, are labeled informants. Informants can provide general background and context information for the study and may be quite helpful in the case study of asthma objectives and the Healthy People

2000 process. An example of informants are the authors of a Datawatch article in the Summer 1990 issue of Health Affairs. The two University of Chicago analysts assessed the 1990 objectives from a different perspective than had been officially undertaken and also looked prospectively at all of the Year 2000 objectives collectively (Anderson and Mullner, 1990).

The interview approach chosen for this study is a combination of an informal conversation interview style and an interview guide (Patton, 1990), with primary reliance on the latter method. The Interview Guide may be modified as data analysis proceeds; however, an initial outline for the interview is attached at Appendix A. The Guide facilitates probing the interviewees for information and their impressions concerning all three of the Research Questions. Table 7 details the characteristics, strengths and weaknesses of the two interview approaches chosen.

The interviewee sampling strategy is designed to fill gaps in the case study data base that are not complete through archival research and to gather impressions from specific types of actors in the policy process and the prevention and control of asthma. The list of actual contacts will grow from the archival data collection and provide the input for a full taxonomy of actors. A preliminary categorization of actors into types has been developed based on a generic policy actor model (Fischer, 1980) and on the initial research, and is shown in Figure 9. Seven types of actors in the process are identified along with the percentage of each category judged appropriate for sufficient understanding of the position of that type of actor, as well as a sampling of perspectives.

Table 7 Variations in Interview Instrumentation

| *Type of Interview* | *Characteristics* | *Strengths* | *Weaknesses* |
|---|---|---|---|
| (1) Informal conversational interview | Questions emerge from the immediate context and are asked in the natural course of things; there is no predetermination of question topics or wording. | Increases the salience and relevance of questions; interviews are built on and emerge from observations; the interview can be matched to individuals and circumstances. | Different information collected from different people with different questions. Less systematic and comprehensive if certain questions do not arise "naturally." Data organization and analysis can be quite difficult. |
| (2) Interview guide approach | Topics and issues to be covered are specified in advance, in outline form; interviewer decides sequence and wording of questions in the course of the interview. | The outline increases the comprehensiveness of the data and makes data collection somewhat systematic for each respondent. Logical gaps in data can be anticipated and closed. Interviews remain fairly conversational and situational. | Important and salient topics may be inadvertently omitted. Interviewer flexibility in sequencing and wording questions can result in substantially different responses from different perspectives, thus reducing the comparability of responses. |

Source: Patton, M.Q., Qualitative Evaluation, 1990

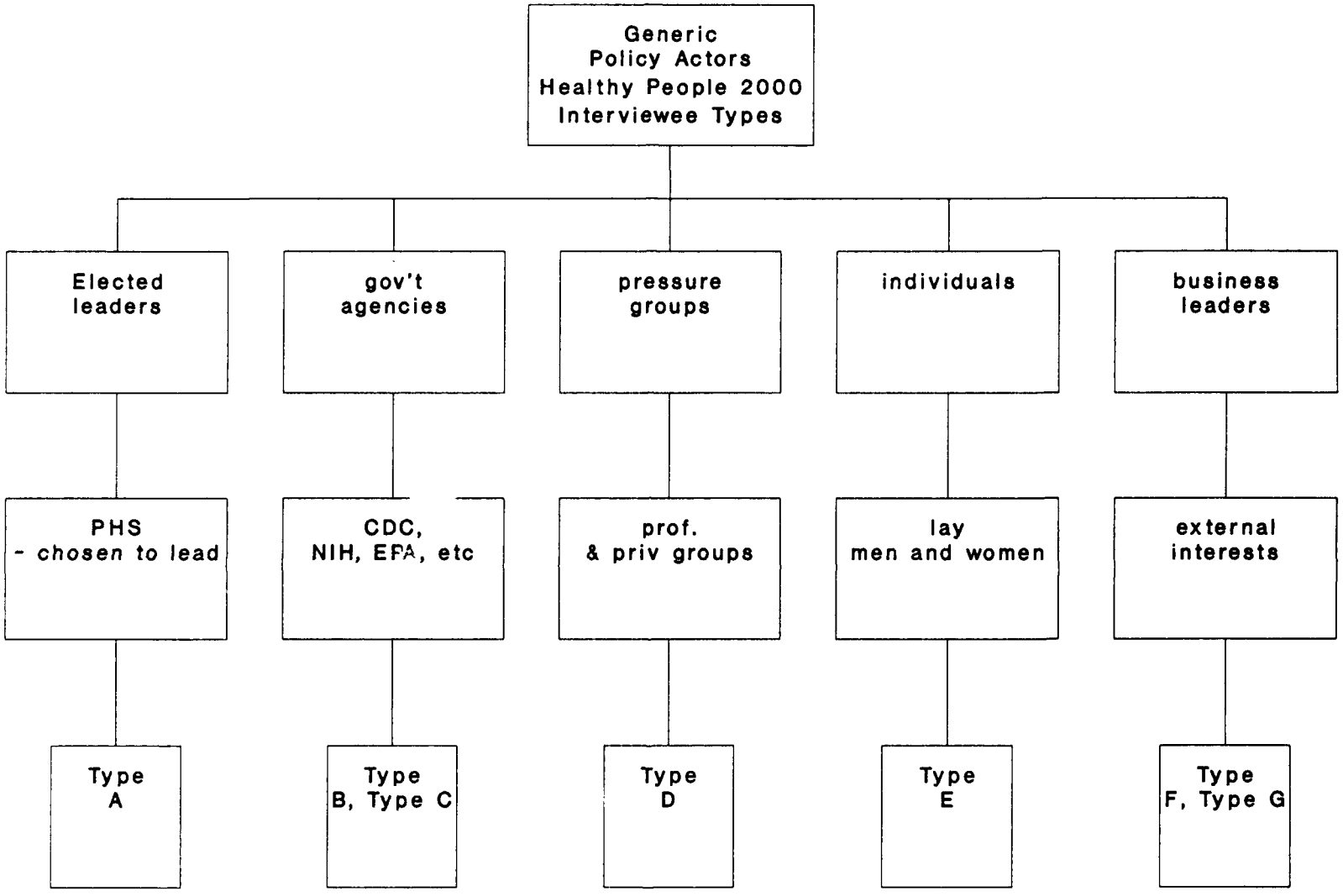



Figure 9. Policy Actors

**Type A** includes critical individual actors, without whom the process would have been markedly different. Three of these actors are currently known, i.e. the coordinators of the Chronic Disease Workgroup and the Environmental Health Workgroup, and the Director of the Office of Health Promotion and Disease Prevention. Interviews with all three of these **Type A** actors will be sought. (An informal, preliminary interview has already been accomplished with one and telephone contact made with a second.)

**Type B** actors are those official organizational participants that expressed asthma-specific concerns during the policy development process. Examples of this type are the National Heart, Lung and Blood Institute and the American Lung Association. A total of approximately ten **Type B** actors is anticipated and interviews will be sought with 100% of this category.

**Type C** actors include official organizational participants whose concerns were not asthma-specific, but who were related to the asthma objectives, either by their official capacity, e.g. workgroup members, or by similar interests, e.g. minority health advocates. Twenty percent of this category is the intended sample size.

Other official participants outside of the above categories are quite numerous. Examples of these actors, **Type D**, are members of all the other workgroups and business leaders and health care professionals who provided requested information to the process. This category along with **Type E** actors, the unofficial participants, is expected to be the least important to the case study development. A less than ten percent interview sample is anticipated.

**Type F** and **G** actors were non-participants in the policy development process, perhaps intentionally, perhaps unintentionally. They may have asthma specific interests (**Type F**) or tangential interests (**Type G**). These actors may be important to specific information about asthma

prevention and control, e.g. the Asthma and Allergy Foundation (known to be a **Type F** intentional non-participant), and/or they may provide insight into the value of the objective setting process and the kind of effects it has outside of the participatory community of actors. Examples of **Type G** actors could include the Children's Defense Fund, the Pharmaceutical Manufacturers Association, or Medicaid. As much as 100% of **Type F** actors may be interviewed, whereas a much smaller sample (approximately 20%) of **Type G** actors is judged appropriate.

As is indicated in the graph in Figure 10, the percentage of actors within each category intended for interview is inversely related to the number of organizations or individuals within that category. The total number of interviews is expected to be between 45 and 60.

Systematic data collection is critical to qualitative data collection, both for a defensible case study report and for the sanity of the researcher! Interviews will be taped where allowed by the interviewee and the setting; concurrent notes will be taken in all interviews. One recent case study of the Environmental Protection Agency used interviews which were then transcribed to facilitate a search for similar concepts (Cook, 1991). This is a possible, though expensive, enhancement.

Post interview notes will be made immediately following the interview to recall extraneous observations not directly reported by the interviewee. Memos are recommended for both interview notes and for archival data collection, i.e periodic formal reflections on the data collected thus far or on unusual findings (Strauss, 1987; Miles and Huberman, 1984).

# Interviewee Selection Strategy

Type A - Critical Individual - 100%
Type B - Official organizational participants with asthma-specific concerns - 100%

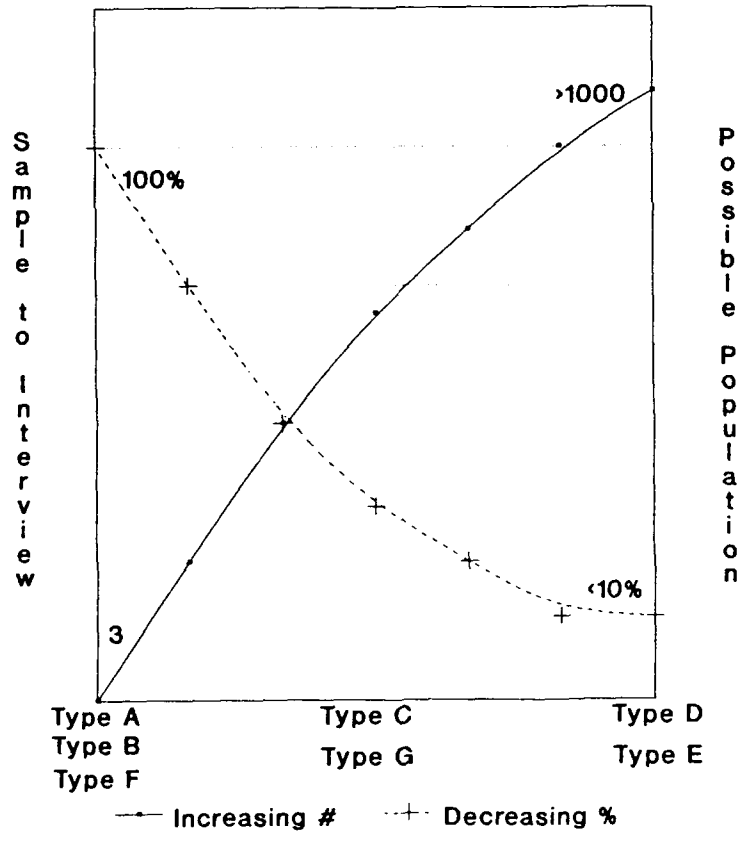
Type C - Official organizational participants related to asthma objectives - 20%

Type D - Other official participants - <10%

Type E - Unofficial participants - <10%

Type F - Asthma-specific non-participants - 100%

Type G - Asthma-related non-participants - 20%



Coding is considered a critical component of systematic data collection in a qualitative study. The coding strategy grows from the data as patterns emerge. However, a preliminary scheme is recommended that includes the taxonomic categories of 1.0 - Conditions, 2.0 - Interactions among Actors, 3.0 - Strategies and Tactics, and 4.0 - Consequences. Appendix B contains the initial coding scheme for the case study of Healthy People 2000 asthma objectives.

A final concern for Phase II of the research is ensuring the confidentiality of the interviewees as appropriate. In some cases, it is anticipated that assurance of confidentiality beyond the researcher will be critical to the subject's conversation. The taxonomic coding described above will facilitate this security by allowing identification of the type of actor and taxonomic category without identifying the specific interviewee. Any direct quotes or observations used in the final case report can be identified by codes. The researcher will maintain a list of individual names, organizations, dates of interviews and specific locations.

The interview content is indicated by the research questions and detailed in the Interview Guide at Appendix A. The three interview areas correspond to each of the three primary research questions. These research questions are repeated here for the reader's convenience:

**Primary Research Questions**

**RQ1. HOW WERE ASTHMA-SPECIFIC OBJECTIVES FORMULATED?**

**RQ2. IN THE OPINION OF KEY STAKEHOLDERS, WHAT ACTIVITIES ARE REQUIRED TO ATTAIN OBJECTIVE 11.1*?**
***REDUCTION OF ASTHMA HOSPITALIZATIONS**

**RQ3. HOW DID THE PROCESS OF POLICY FORMULATION SHAPE THE DISCOURSE WITHIN THE COMMUNITY OF HEALTH POLICY ACTORS?**

Subsidiary Research Questions

RQ1: Who was involved? How were the categories for the objectives chosen? How were specific targets agreed upon? With what theoretical model, if any, was the formulation of the objectives consistent?

RQ2: What activities are in place that will impact achievement of objective? How important are these activities? What activities are planned for the future? What barriers are there to realizing the objective? How are activities coordinated and/or interdependent?

RQ3: Did the policy formulation process encourage stakeholder interaction? How does the objective that was set as a result of the policy formulation process effect asthma prevention and control? Did the process raise awareness of asthma prevention and control? Was the establishing of the objective a gain for asthma prevention and control? How does the bounding and categorization of the objectives impact on asthma-related activities?

Area 1 of the interview concerns the history and actual characteristics of the policy development process as recalled by the interviewee, corresponding to Research Question 1. Interview Area 2 addresses the activities related to achieving the reduction of asthma hospitalizations. Possible findings include:

1. Objective 11.1 is attainable in the view of the relevant interests
2. Objective 11.1 is attainable with serious caveats
3. Objective 11.1 is not attainable.

Interview Area 3 probes the interviewee's subjective impressions of the effects of the policy formulation process. At least two patterns could emerge: (1)The process and the objective are valuable irrespective of attainability, or (2)the process and the objective are divisive and destructive. Possible reasons for the final finding could be that the objective solidifies inequity

by establishing lower goals for target populations, the objective may force funds to environmental health efforts inappropriately and minimize efforts in other areas that impact asthma prevention and control, e.g. access to care. or the process may have pitted interests against one another in a competitive approach that was counterproductive to coordinated efforts to control disease.

The matrix in Figure 11 illustrates some possible choices regarding policy formulation and effects of the process. This kind of data reduction display is helpful in discerning and organizing patterns (Miles and Huberman, 1984).

**Phase III - Data Analysis.** Unlike a quantitative, statistical approach that collects the data and then performs the analysis, in a case study methodology, analysis begins as soon as data collection begins, and findings emerge from the earliest research efforts. These findings are, of course, subject to continual adjustment in the light of new data. As an example, it was in studying the documentation of Healthy People 2000 for this proposal, that the Reflexive model of policy formulation began to emerge.

This approach to data analysis borrows from grounded theory wherein "conceptual density" (Strauss, 1987) is sought from complex and varied data sources. Data collection and analysis are interrelated processes that provide discovery of concepts "by repeatedly being present in interviews, documents, and observations in one form or another - or by being significantly absent" (Corbin and Strauss, 1990,page 7). This concurrent data analysis approach is illustrated in Figure 8 (see page 48).

**Possible Results of Policy Formulation Analysis**

| | Reflexive Model Apparent | Rational Model Apparent | Incremental Model Apparent |
|---|---|---|---|
| Process "Worked" (How) | | | |
| Process did not "work" (How) | | | |

Figure 11.

Consistent with the interrelatedness of data analysis and data collection, many of the analytical tools have been introduced in the Phase I and II discussions of Data Collection. Notes, memos, and coding are all instruments of analysis as well as collection and will aid in the recognition of patterns or disconnects important to the case study.

**Phase IV - Data Reporting.** The final case study report is critical to its acceptance as a legitimate research effort. Phases I-III will provide the input for the case report and will shape the eventual product. An initial broad outline of the report assists in both conceptual organization and data completeness (Miles and Huberman, 1984). This outline is contained in Appendix C.

Case study reports, e.g. G.T. Allison's study of the Cuban Missile Crisis or Herbert Kaufman's study of forest rangers have become legendary in various disciplines (Grant et al 1988; Yin, 1984; White and McSwain, 1990). If one of the primary reasons for undertaking a case study is to share insights and promote discussion (Stein, 1952), readability competes with reliability for importance, much more so than in a quantitative analysis. Readability is wholly dependent on the researcher's individual skills to execute. If the reviewer of this proposal has remained absorbed enough to reach this point, one hopes that demonstrates some measure of the researcher's skills in the readability category!

## Study Limitations

There are limitations of retrospective archival data and interviews. The uncertainty of reconstructing past events can be controlled by "staying within the evidence" (Tuchman, 1982, p. 18) as well as by the review of participants in the process (see Table 6). Two weaknesses compare to Type I and Type II errors in statistical sampling that correspond to possible errors in case study analysis. A Type I error in hypothesis testing would have erroneously judged the

research hypothesis to be confirmed. The remedy for this is to decrease the sample size and to risk excluding pertinent data points. This corresponds to bounding the data collection too tightly and omitting relevant sources.

A Type II error would erroneously reject the research hypothesis and can be avoided by widening the sample space, risking the inclusion of superfluous information. This same risk is doubly dangerous in case study research, not only because of extraneous information that may cloud the analysis, but also because of the potentially unlimited facets of the phenomenon. Miles and Huberman (1984) call this a matter of "progressively lowering your aspirations" (page 36).

A third, Type III error, has been defined as simply asking the wrong question (Dery, 1984). This idea is nicely captured by Deyr's analogy of a recipe for rabbit stew. The very detailed instructions of how to prepare a delicious final product begin with "first catch the rabbit." Defining the research questions and the inquiry space is a parallel exercise to catching the rabbit.

Other data and methodology limitations are discussed in detail in other sections of this chapter.

## Chapter Summary

Chapter III has presented the general methodological framework to be used in this study of Healthy People 2000 asthma objectives. Specific research strategies, research phases, data collection instruments, and analysis tools are included. An outline of the final case report is presented as an tentative orientation to the research process and product.

This chapter concludes the proposal for dissertation research.

## Bibliography


Allison, G.T. Essence of decisionmaking: Explaining the Cuban missile crisis, Boston:Little, Brown, 1971.

Amara, Roy C. and Salancik, Gerald R. Forecasting: From Conjectural Art Toward Science. The Futurist June:112-117, 1972.

Anderson, H.R. Is the prevelance of asthma changing?. N Z Med.J 64:172-175, 1989.

Anderson, Ronald and Mullner, Ross. DataWatch: Assessing the Health Objectives of the Nation. Health Aff Summer:153-163, 1990.

Benatar, S.R. Fatal Asthma. N Engl J Med 13:423-429, 1986.

Bernstein, Richard J. Beyond Objectivism and Relativism: Science, Hermenuetics, and Praxis, Philadelphia:University of Pennsylvania, 1988.

Boulding, Kenneth E. General Systems Theory:The Skeleton of Science, Chicago:Aldine, 1968.

Breslow, Lester. Setting Objectives for Public Health. Ann Rev Public Health 8:289-307, 1987.

Brewer, Garry D. and deLeon, Peter. The foundations of Policy Analysis, Homewood, IL:The Dorsey Press, 1983.

Buist, A.S. Asthma mortality: What have we learned. J Allergy Clin Immun 84:275-283, 1989.

Buist, A.S. and Vollmer, W.M. Reflections on the rise in asthma morbidity and mortality [comment]. JAMA 264:1719-1720, 1990.

Burney, P.G.J. comments. In: Progress in Asthma and COPD. Proceedings of the Symposium, edited by Vermeire, P., Demedts, M. and Yernault, J.C.:1988.

Califono, Joseph A. America's Health Care Revolution, New York:Simon & Schuster, 1986.

Callahan, Daniel. What Kind of Life: The Limits of Medical Progress, New York:Simon and Schuster, 1990.

Catron, Bayard L. and Harmon, Michael M. Action Theory in Practice:Toward Theory Without Conspiracy. PAR Sept/Oct:535-541, 1981.

Centers for Disease Control. Status of the 1990 Physical Fitness and Exercise Objectives. JAMA 254:1694-1697, 1985.

Centers for Disease Control. Asthma--United States, 1980-1987. MMWR. 39:493-497, 1990.

Churchman, C.West. The Design of Inquiring Systems: Basic Concepts of Systems and Organization, New York:Basic Books, 1971.

Cook, Brian J. Public Administration as a Political Institution -in Proceedings of the Public Administration Theory Network, March 1991. (UnPub)

Corbin, Juliet and Strauss, Anselm L. Grounded Theory Research: Procedures, Canons, and Evaluative Criteria. Qual Soc 13:3-21, 1990.

Dahl, Robert A. Modern Political Analysis, Englewood Cliffs:Prentice Hall. 5th ed, 1991.

deLeon, Peter. Advice & Consent, New York:Russell Sage Foundation, 1988.

Dery, David. Problem Definition in Policy Analysis, Lawrence:University of Kansas, 1984.

Dexter, Lewis A. Elite and specialized interviewing, Evanston:Northwestern University Press, 1970.

Dror, Yehezkel. Design for Policy Sciences, New York:American Elsevier, 1971.

Dubnick, Melvin J. and Bardes, Barbara A. Thinking about Public Policy: A Problem Solving Approach, New York:John Wiley & Sons, 1983.

Engel, Winslow, Freund, Deborah A., Stein, Jane S. and Fletcher, Robert H. The Treatment of Patients with Asthma by Specialists and Generalists. Med Care 27:306-314, 1989.

Etzioni, Amitai. Mixed-Scanning: A 'Third' Approach to Decision-Making. PAR 27:385-392, 1967.

Evans, David A. and Patel, Vimla L.eds Cognitive Science in Medicine, Cambridge, MA:MIT Press, 1989.

Fabbri, L.M. and Saetta, M. Fatal asthma. Sarcoidosis. 6:II-VII, 1989.

Fein, Rashi. Medical Care, Medical Costs, Cambridge:Harvard University Press, 1989. Ed. 2

Feltovich, Paul J., Spiro, Rand J. and Coulson, Richard L. The Nature of Conceptual Understanding in Biomedicine: The Deep Structure of Complex Ideas and the Development of Misconceptions. In: Cognitive Science in Medicine, edited by Evans, David A. and Patel, Vimia L. Cambridge, Mass: MIT Press, 1989,

Files, Ashley. Office of Health Promotion and Disease Prevention: interview. 1991.(UnPub)

Fischer, Frank. Politics, Values, and Public Policy: The Problem of Methodology, Boulder, CO:Westview Press, 1980.

Fischer, Frank. Beyond the Rationality Project: Policy Analysis and the Postpostivist Challenge. Pol St J 17:941-950, 1989.

Follett, Mary Parker. The Process of Control. Lecture Series 1932.

Foucault, Michelle. The order of things: An archeology of the human sciences, New York:Pantheon Books, 1970.

Fowles, J, Schoenwetter, W., Pheley, A., McCoy, C., Engel, W. and Lurie, N. Measuring the severity and outcomes of asthma care by generalists and allergists. J Allergy Clin Immun:abstract, 1989.

Freid, Robert A. The Family Physician and Health Objectives for the Nation. Jour of Fam Prac 25:296-302, 1987.

Gergen, P.J., Mullally, D.I. and Evans, R., 3d. National survey of prevalence of asthma among children in the United States, 1976 to 1980. Pediatrics. 81:1-7, 1988.

Gergen, P.J. and Weiss, K.B. Changing Patterns of Asthma hospitalizations among children 1979 to 1987. JAMA 264:1688-1692, 1990.

Gilligan, Carol. In a Different Voice, Cambridge, Mass:Harvard University Press, 1982.

Ginzberg, Eli. High-Tech Medicine and Rising Health Care Costs. JAMA 263:1820-1822, 1990.

Gleick, James. Chaos: Making of a New Science, New York:Penguin Books, 1987a.

Gleick, James. Snowflake study unlocks pattern formation mysteries. The State Journal Register, Springfield, IL, January, 1987.

Grant, Lindsey, Bezold, Clement and Sterman, John. Foresight and National Decisions, Lanham, MD:University Press of America, 1988.

Green, Lawrence W., Wilson, Ronald W. and Bauer, Katherine G. Data Requirements to Measure Progree on the Objectives for the Nation in Health Promotion and Disease Prevention. AJPH 73:18-24, 1983.

Hargreave, F.E., Dolovich, J. and Newhouse, M.T. The assessment and treatment of asthma: a conference report. J Allergy.Clin.Immunol. 85:1098-1111, 1990.

Hiatt, Howard H. Medical Lifeboat, New YOrk:Harper & Row, 1987. Ed. 2

Hummel, Ralph P. Stories Managers Tell: Why They are as Valid as Science. PAR 51:31-41, 1991.

Jennings, Bruce. Interpretation and the Practice of Policy Analysis. In: Confronting Values in Policy Analysis, edited by Fischer, Frank and Forester, John Newbury Park: Sage, 1987,

Kaufman, Herbert. The Forest Ranger: A study in Administrative Behavior, Baltimore:Johns Hopkins Press, 1972.

Klingelhofer, Edwin L. and Gershwin, M.Eric. Asthma self-management programs: premises, not promises. J Asthma 25:89-101, 1988.

Kuhn, Thomas S. The Structure of Scientific Revolutions, Chicago:University of Chicago , 1970. Ed. 2.

Kuttner, Robert. The Economic Illusion: False Choices Between Prosperity and Social Justice, Philadelphia:Univ of Pennsylvania , 1987.

Lamm, R.D. Health care as economic cancer. J Med.Pract.Manage.. 4:91-6., 1988.

Lasswell, Harold D. A Pre-View of Policy Sciences, New York:American Elsevier, 1971.

Lindblom, Charles E. The Science of "Muddling Through". PAR Spring:79-88, 1959.

MacIntyre, Alasdair. Whose Justice? Whose Rationality?, Notre Dame:Univ of Notre Dame, 1988.

Martino, J.F. in A Guide to Prac. Tech. Forecasting, Bright, J.R., E.Cliffs:P. Hall, 1978.

Mason, James O. A Prevention Policy Framework for the Nation. Health Aff Summer:24-29, 1990.

McGinnis, J.Michael. Setting Objectives for the Public Health in the 1990s: Experience and Prospects. Ann Rev Public Health 11:231-249, 1990.

Miles, Matthew B. and Huberman, A.Michael. Qualitative Data Analysis: A Sourcebook of New Methods, Beverly Hill:Sage, 1984.

Mitchell, E.A. and Anderson, H.R. Changes in asthma prevalence [letter]. Arch Dis.Child. 65:646-646, 1990.

Moreno, Jonathan D. and Glassner, Barry. Introduction: Quantification and Enlightenment. In: The Qualitative-Quantitative Distinction in Social Sciences, edited by Moreno, Jonathan D. and Glassner, Barry: Norwell, MA:Kluwer Academic, 1989.

Morrow, Lance. Triumphant Return. Time, March 18:19-21, 1991.

Mullan, Fitzhugh. Plagues and Politics: The Story of the United States Public Health Service, New York:Basic Books, 1989.

Muntner, Suessman. The Medical Writings of Moses Maimonides, Phila:J.B. Lippincott Co, 1963.

National Heart, Lung, and Blood Institute. Data Fact Sheet: Asthma Statistics, Washington, DC:NHLBI, 1989.

Nicklas, R.A. Perspective on asthma mortality--1989. Ann.Allergy. 63:578-584, 1989.

Overman, E.Sam. Theory Development in Policy Science (Book Review Essay). Pol Sci 21:109-115, 1988.

Patton, Carl V. and Sawicki, David S. Basic Methods of Policy Analysis & Planning, Englewood Cliffs, NJ:Prentice-Hall, 1986.

Patton, Michael Quinn. Qualitative Evaluation and Research Methods, Newbury Park, CA:Sage, 1990. Ed. 2

Popper, K.R. Scientific Method (1934). In: Popper Selections, edited by Miller, David Princeton: Princeton University Press, 1985,

Prigogine, Ilya and Stengers, Isabelle. Order Out of Chaos, Toronto:Bantam Books, 1984.

Quade, E.S. Analysis for Public Decisions, New York:North-Holland, 1989.

Redman, Eric. The Dance of Legislation, New York:Simon & Schuster, 1973.

Rittell, Horst W.J. and Webber, Melvin M. Dilemmas in a General Theory of Planning. Policy Sciences 4:155-169, 1973.

Rodin, Alvin E. and Key, Jack D. Medicine Literature & Eponyms. Robert E. Krieger 1989.

Rohrer, James E. The Political Development of the Hill-Burton Program: A Case Study in Distributive Policy. Jour Health Politics Policy & Law 12:137-154, 1987.

Schon, Donald A. The Reflective Practitioner, USA:Basic Books, 1983.

Schwartz, J., Gold, D., Dockery, D.W., Weiss, S.T. and Speizer, F.E. Predictors of asthma and persistent wheeze in a national sample of children in the United States. Association with social class, perinatal events, and race. Am.Rev Respir.Dis. 142:555-562, 1990.

Schwarz, Brita, Svedin, Uno and Wittrock, Bjorn. Methods in Futures Studies: Problems and Applications, Boulder:Westview Replica Editions, 1982.

Shattuck, Lemuel, Banks, N.P.Jr. and Abbott, Jehiel. Report of a General Plan for the Promotion of Public and Personal Health (Dunton & Wentworth, Boston, 1850). In: cited in A Midcourse Review, edited by U.S.Public Health Service Washington, DC: GPO, 1986,

Shaw, R.A., Crane, J. and O'Donnell, T.V. Prevalence of asthma in children [letter; comment]. BMJ. 300:1652-1653, 1990.

Simon, Herbert. Adminstrative Behavior, New York:Macmillian, 1947.

Sorian, Richard. The Bitter Pill: Tough Choices in America's Health Policy, New York:McGraw-Hill, 1988.

Soros, George. The Alchemy of Finance, New York:Simon & Schuster, 1987.

Stein, Harold. ed. Public Adminstration and Policy Development: A Case Book, New York:Harcourt, Brace and Company, 1952.

Stone, Deborah A. Policy Paradox and Political Reason, Glenview, IL:Scott, Foresman & Company, 1988.

Stone, Deborah A. Causal Stories and the Formation of Policy Agendas. Pol Sci Qrt 104:281-300, 1989.

Strauss, Anselm L. Qualitative analysis for social scientists, Cambridge:Cambridge University Press, 1987.

Tesh, Syliva Noble. Hidden Arguments: Political Ideology and Disease Prevention Policy, New Brunswick:Rutgers University Press, 1988.

Thurow, L.C. Medicine versus economics. N.Engl.J.Med 313:611-614, 1985.

Tuchman, Barbara W. In Search of History. In: Practicing History, New York: Ballantine Books, 1982.

Tuchman, Barbara W. March of Folly: From Troy to Vietnam. New York: Ballantine Books, 1984.

U.S.Public Health Service. Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention, Washington, DC:GPO, 1979.

U.S.Public Health Service. Promoting Health/Preventing Disease: Objectives for the Nation, Washington, DC:U.S. Government Printing Office, 1980.

U.S. Public Health Service. Promoting Health/Preventing Disease: A Midcourse Review, Washington, DC: U.S. Government Printing Office, 1985.

U.S.Public Health Service. Healthy People 2000: National Health Promotion and Disease Prevention Objectives, Washington, DC:U.S. Government Printing Office, 1990.

United States Senate. S.2056, Health Objectives 2000 Act. Congressional Record October 19:S16312-S16319, 1990.

Walker, Cheryl L., Greenberger, Paul A. and Patterson, Roy. Potentially fatal asthma. Ann.Allergy. 64:487-493, 1990.

Weinstein, Allan. Asthma, New York:McGraw Hill, 1987.

Weiss, K.B. and Wagener, D.K. Changing patterns of asthma mortality. Identifying target populations at high risk [see comments]. JAMA 264:1683-1687, 1990.

Weiss, K.B. abstract. J Allergy.Clin.Immunol. 1990a.

Weiss, K.B. and Wagener, D.K. Geographic variations in US asthma mortality: small-area analyses of excess mortality, 1981-1985. Am.J Epidemiol. 132:S107-S115, 1990b.

Weiss, Kevin B., Gergen, Peter J. and Hodgson, Thomas A. Asthma in the U.S.: the Economic Impact of a Chronic Illness. 1991.(UnPub)

Wennberg, John E., Freeman, Jean L. and Culp, William J. Are Hospital Services Rationed in New Haven or Over-utilized in Boston?. Lancet May 23:1987.

White, Orion F.Jr. and McSwain, Cynthia J. The Phoenix Project: Raising a New Image of Public Administration from the Ashes of the Past. In: Images and Identities in Public Administration, edited by Kass, Henry D. and Catron, Bayard L. Newbury Park: Sage, 1990,

Whitsitt, William F. Public Policy Formulation: One Synthesis Path Toward Understanding. 1988.(UnPub)

Wilson, David. The National Planning Idea in U.S. Public Policy, Boulder, Colorado:Westview Press, 1980.

Yin, Robert K. Case Study Research: Design and Methods, Beverly Hills:Sage, 1984.

# Appendix A

## Interview Guide

## Interview Area 1

### History/Description of Policy Formulation

1. Did you participate in the Healthy People 2000 development process?
   Yes - go to #3
   No - go to #2

2. Are you familiar with the Healthy People 2000 objective-setting process?
   Yes - go to #4 and answer the following questions according to your available information and perception, not active role
   No - go to Interview Area 2

3. What was your role?

4. What were your specific concerns/interests when the process began?

5. How did asthma come to be on the objective-setting agenda?

6. What were other parties' interests?

7. What has changed about asthma since the 1990 objectives were set in 1980?
   Severity?
   Incidence?
   Data?
   Advocacy groups?

8. What values did you perceive in the objective-setting process? None? There but not influential? Influential? - Name

9. Do you view this as a minor change to the earlier document or a major new initiative?

10. Did your perception of the situation and available solutions change during the process?

11. Did other's perceptions change?

12. Was expert knowledge the most important factor in the choice of objectives?

13. What was the role of citizen input?

14. How were the categories for the asthma objectives chosen?

15. Who or what organizations exerted influence over the choice?

16. Who was left out of the process?

## Interview Area 2

## Activities related to Achieving Objective 11.1

1. Are you (or your organization) directly involved in activities that effect asthma prevention and control?
   Yes - go to #3
   No - go to #2

2. How are you related to/ why are you concerned about asthma prevention and control?

3. What is your role?

4. What activities do you currently control or have planned that could impact asthma hospitalizations?
   (if activities effect other than hospitalizations, so specify)

5. What barriers do you foresee to your activities?

6. How important are your activities to attaining the objective?

7. What activities outside of your domain do you see as important?

8. Are these activities interdependent? Are they coordinated?

9. Is the objective as stated attainable in your view?

10. Will it be possible to know if the target has been achieved?

11. Are the special target groups equally impacted by your activities?

## Interview Area 3

## Process Effects and Impressions

1. What kinds of effects has setting the asthma-related objective had?

2. What kind of effects might it have over the next decade?

3. Was the process complementary to asthma prevention and control?
   Was it divisive?
   Was it neutral?

4. Does establishing an objective specific to asthma raise awareness of it as health problem?

5. What effect does categorizing the primary asthma related objective in Environmental Health have?

6. What might have been different about the process or the final objective?

# Appendix B

## Coding Scheme

## Coding Scheme

1.0 Conditions
- 1.1 Type of data
- 1.2 Site of data collection
- 1.3 Condition of data

2.0 Interactions among Actors
- 2.1 Taxonomy of Actors
  - ACP 2.0 Participants
    - ACP2.1 Official participants
    - ACP2.1.1 asthma related
    - ACP2.1.1.1 organization
    - ACP2.1.2 non-asthma related
    - ACP2.1.2.1 organization
    - ACP2.2 Unofficial
  - ACNP 2.0 Non-participants
    - etc

3.0 Strategies and Tactics
- 3.1 Interests
- 3.1.1 Disease specific
- 3.1.2 health care delivery
- 3.1.3 business
- 3.1.4 public citizen
- 3.1.5 environmental

- 3.2 Motivation
- 3.2.1 "scientific"
- 3.2.2 funding
- 3.2.3 personal disease

- 3.2 Influence
- 3.2.1 major government funder
- 3.2.2 charismatic

- 3.3 Values expressed
- 3.3.1 equity
- 3.3.2 free market
- 3.3.3 ecological

3.4 Causal stories
3.4.1 lifestyle
3.4.2 socio-economic conditions
3.4.3 health care access
3.4.4 management

4.0 Consequences

4.1 Effects of input

4.2 Emerging links

Appendix C

Case Report Outline

Case Report Outline

I. Introduction
    A. synopsis of findings
    B. organization of report

II. Report of the data collection procedures
    A. Archival sources
        1. Intended
        2. Used
        3. Explanation of difference between 1 & 2

    B. Interviews
        1. Intended
        2. Accomplished
        3. Explanation of difference

    C. Overview of interview efforts
        1. Technical aspects of interviews
            a. contacting interviewees
            b. setting
            c. taping?
        2. Variety among interviews
        3. Special occurrences

    D. Final data collection/analysis instruments
        1. Coding scheme
        2. Memos
        3. Data reduction displays

III. Findings

    A. History
        1. Description of events leading to Healthy People 2000
            a. consortium
            b. workgroups
            c. testimonies
        2. Institute of Medicine as lead agency
            a. reasons
            b. role
        3. Participants

B. Asthma-specific history/description
    1. Emergence as issue
    2. Categorization
    3. Actors
    4. Objectives
        a. purpose
        b. targets

C. Objective 11.1
    1. Overview - Attainable?
        a. yes
        b. no
    2. More on why/how chosen
        a. target groups
        b. valid data
        c. political
    3. Actors in attainment
        a. specific to asthma
        b. related
    4. Activities
        a. current
        b. planned
        c. barriers
    5. Interrelationships of activities

D. Impression/Effects of Process
    1. General views
        a. consistent?
        b. disparate?
    2. Characterization of general perspective
    3. Interview reports

IV. Theoretical Implications of Findings

A. Policy formulation model review
    1. Process consistent with a model as initially described?

B. Full description of model as emerged from data

V. Practical implications of findings

A. For policy formulation

B. For asthma prevention and control

VI. Reflections on findings

VII. Recommendations for future research